



Washington Park ARBORETUM BULLETIN

*Published by the Arboretum Foundation
for the University of Washington*

Volume 51, No. 4, 1988/89 \$2.50

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Concerning This Issue...

Right now you may be assessing the impact of winter's snows and low temperatures, like the Washington Park Arboretum is doing. If your garden or favorite park is affected, the foliage and bloom of spring may be late or damaged. To get a glimpse of what still could be, we invite you to take an armchair tour of the region's rhododendrons on these pages.

Start your trek with Steven Lorton's lively introduction to rhododendrons for beginners. He'll explain why species lovers enjoy rhododendron foliage year-round, and what makes hybrid fanciers treasure the transient bloom. You can get *approximate* bloom times for the Arboretum's rhododendrons from Jan Pirzio-Biroli's article. Find out with author Jane Rogers why Fred Robbins helped start the Rhododendron Species Foundation (RSF). Then follow the progress of RSF's rhododendron seed-exchange program with China in Richard Piacentini's article.

Retrace the steps taken by Kendall Gambrill on his journey to discover where two special rhododendron species thrive in the United States—a journey that ends up in the Washington Park Arboretum. Then follow Kendall's advice on tracking down and preventing the rhododendron villain, *Armillaria*. On the way, Gwen Bell will give you a glimpse into the life and legacy of hybridizer Halfdan Lem. Elsie Watson will discuss some of the best new hybrids, and Bob Badger will explain how to designate the color of your new cross. Stay with us if you are interested in companion planting with rhododendrons: Nan Ballard and friends offer some of their ideas. You will learn where to find special rhododendron gardens in Scot Medbury's article, and follow—in lay terms—what the scientists tell us about rhododendron problems in Van Bobbitt's new column.

Your reading may bring you full circle or start you on a new interest in rhododendrons. Either way, Valerie Easton's column will give you publications and organizations to contact for more information.

Thanks go to Kendall Gambrill for being advisor for this issue. We hope you enjoy your rhododendron tour of the *Bulletin* and look forward to bringing you a historical issue later this spring.

Jan Silver, Editor
The Washington Park Arboretum Bulletin

*The color cover for this issue was donated by
the Madison Park Garden Club in appreciation for
the support provided by the community
for the annual garden tour.*



Page 14



Page 23

Cover: The cover photo of *Rhododendron* 'Lady Rosebery' was taken in May 1970 by Art Dome. 'Lady Rosebery' is a Rothschild cross of *R. cinnabarinum* var. *roylei* x *R. 'Royal Flush'*, the pink form.

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CONTENTS

2 Rhododendrons for the Beginner by *Steven R. Lorton*
4 When Rhododendrons Bloom in the Washington Park
Arboretum by *Jan Pirzio-Biroli*
6 Fred Robbins: Reminiscences of a Species Lover
by *Jane Rogers*
9 The Rhododendron Species Foundation Seed Exchange
by *Richard V. Piacentini*
10 Some of the Best New Hybrids for Your Garden
by *Elsie Watson*
13 *Armillaria*: The Little-known Villain
by *Kendall W. Gambrill*
14 The Man Who Loved Plants: Halfdan Lem by *Gwen Bell*
17 The Saga of *Rhododendron vernicosum* and
R. hemsleyanum by *Kendall W. Gambrill*
19 What Was the Color of That Flower? by *Bob Badger*
20 Northwest Hort Review by *Van M. Bobbitt*
22 In the Arboretum by *Christina Pfeiffer*
23 Rhododendron Companions by *Nan Ballard*
24 The Northwest Garden Explorer by *Scot Medbury*
26 Book Reviews
26 For Further Information edited by *Valerie Easton*
28 New on the Shelves of the Elisabeth C. Miller Library

The Washington Park Arboretum Bulletin is published quarterly, as a bonus of membership in the Arboretum Foundation. The Arboretum Foundation is a non-profit organization that was chartered to further the development of the Washington Park Arboretum, its projects and programs, by means of volunteer hours and fund raising projects. The Washington Park Arboretum is administered through cooperative efforts between the University of Washington, the Center for Urban Horticulture, and the City of Seattle Department of Parks and Recreation. The programs and plant collections are a responsibility of the Center for Urban Horticulture.

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Rhododendrons for the Beginner

A Rhododendron Overview

by Steven R. Lorton

As I sat mulling over what to tell an Arboretum Foundation member who has not yet discovered rhododendrons, I was reminded of Paris. "Paris?" you wonder. Paris.

Let me explain: I once found myself talking to a European woman. She was in her mid-fifties and im-

tunate because in your life you have ahead of you seeing Paris for the first time!"

Years later, when I walked out of St. Lazare rail station on my first visit to Paris and climbed into a cab that took me to the Place Vendôme, I knew what she meant.



Photo by Brian O. Mulligan

Rhododendron yakushimanum A.M. form.

peccably dressed. She sparkled with just the right amount of jewelry and her English was deliciously accented. I mentioned to her that I had never been to Paris.

"You have *never* been to Paris?" she asked.

"Never," I answered.

She settled back into her chair, drifting off for an instant with a bemused, vague look. "Oh," she muttered. "How very fortunate."

"*Fortunate?*" I said. "What do you mean *fortunate?*" "Oh, fortunate," she responded. "For-

Well, this is exactly how I feel about people who have the discovery of rhododendrons ahead of them. Little do you know what joys await! And how lucky you are to have that great adventure ahead of you! It begins with the sight of the Pacific Northwest at the peak of bloom (usually around mid-May). This leads you to books on everything from plant descriptions that make you itch to garden, to ones on places where these noble plants originate and how they got to our gardens. Then the first plant enters your garden. And the excitement never ends.

But while the subject is complex and limitless in its interest and beauty, any understanding of rhododendrons is simple, clean, direct, uncomplicated. To talk to knowledgeable gardeners about rhododendrons is a bit like asking an architect to comment on the lines of the Parthenon. Early on, some of the Northwest's great gardeners gave me classic rhododendron lessons.

Once I asked Joe Witt, the curator of the Washington Park Arboretum for many years, when to transplant rhododendrons. Rather off-handedly Joe responded, "Oh, anytime really. Maybe not just before or during bloom if you don't want to lose the flowers."

Early on in my career with *Sunset Magazine*, I was writing about the glorious trusses of a certain rhododendron. Nancy Davidson, the magazine's first Northwest editor, read my copy then demanded a rewrite. "You've got to tell them more," she insisted. "Asking a reader to go out and buy a rhododendron for its bloom is about like telling a guy he should marry a woman because he likes her Easter hat!"

Ken Gambrill (see his articles in this issue) was the director of the Rhododendron Species Foundation when I asked him what advice he would give a beginning gardener about using rhododendrons. He didn't hesitate. "Tell them not to plant a big one in front of their picture window."

And once Betty Miller was giving me a tour of her garden. Betty is an eminent Northwest horticulturist and the moving force behind the Elisabeth C. Miller Library at the Center for Urban Horticulture. It was autumn, and she had led me past the statuesque forms and powerful foliage of *Rhododendron makinoi*, *R. pentaphyllum*, and *R. macabeanum*. Struggling to say something, anything, not to be *hortus non grata*, I commented that I thought the red of 'The Honorable Jean Marie de Montague' was especially vivid. Betty looked me over and said, "That's a hybrid!" I nodded sheepishly. "So!" she said, "You like cabbages!"

From Joe Witt, I learned that rhododendrons are easy to grow and undemanding. Nancy Davidson taught me that the beauty of this genus is more in the plant than in the flower it produces. Ken Gambrill's message was to choose the right plant for the spot—whether it's a *Rhododendron impeditum* to creep over rocks in full sun, one of the *R. yakushimanum*s to flank a path and spill out over paving, or a *R. falconeri* to stretch high, forming a canopy over treasured ground covers in a woodland garden.

Betty Miller, in her indefatigable (and at that moment subtle) way introduced me, the greenhorn, to the infinite pleasures to be found in the species—the plants as they are found in nature, not as they have been crossbred for bigger, brighter flowers.

Each of these people now is enshrined in my personal pantheon of garden gods. And each of them offered the simple truth about rhododendrons—they represent a grand and varied family of plants; they are beautifully responsive to the benevolent climate and rich acid soil of the Pacific Northwest; and they deserve a worthy spot in the garden. And, for the most part, leave them alone and you'll have a lifetime of pleasure ahead of you.

You will make the rhododendron odyssey in three ways: on your feet, in an easy chair, and on your knees. Start by walking the Arboretum's Rhododendron Glen and Loderi Valley; then journey on to the other public plantings around the Northwest (listed in Scot Medbury's article) and through the old residential neighborhoods where big, venerable, gnarled plants are rooted-in like the garden aristocrats that they are. Next, find a cozy place to sit and read. This issue of the *Washington Park Arboretum Bulletin* is an excellent place to start. Go to libraries and trade books with friends. Then do some primary research. Talk to nurseries, Arboretum volunteers, and people at public gardens; gardeners are amazingly patient and willing to share. Finally, buy a plant (the Arboretum Plant Sale is one excellent source) and you'll be on your knees—not to pray, that isn't necessary with rhododendrons—but to put your first plant in place. It's as easy as that! You're launched.

Now, back to Paris. Hemingway once said that Paris was a "moveable feast." Well, the world of rhododendrons is a feast, too. Ahead of you is a sumptuous experience that will nurture you aesthetically, intellectually, and even physically as you stretch and move—planting, pruning, and searching out rhododendrons. With every course, you'll become more appreciative of the great banquet. So, as you start with your first nibble, there is little more to say, except, perhaps, what they say in Paris: *Bon appétit!*

Steven R. Lorton is the Northwest editor of *Sunset Magazine*. He is an executive board member of the Arboretum Foundation, a member of the *Washington Park Arboretum Bulletin* editorial board, and an active member of the Madison Park Garden Club.

When Rhododendrons Bloom in the Washington Park Arboretum

by Jan Pirzio-Biroli

Rhododendrons are among the most colorful plants in gardens of the Pacific Northwest.

In the Arboretum, their season begins as early as December.

Our records tell us that blooming times for many plants may vary since they are controlled by a combination of factors. Two of the most important of these are: (1) day and night length, which changes consistently throughout the year; and (2) various aspects of climate, which are only moderately predictable. An excellent example of this phenomenon occurs in the bed of *Rhododendron augustinii*, which is across Arboretum Drive from the Graham Visitors Center. For many years we counted on it to reach its peak of color during "plant sale time"—when the sale took place the first week of May. On April 9, 1987, however, these plants were in full bloom and were fading less than a month later. Nevertheless, because of their partial dependence upon day length, rhododendrons do follow a relatively predictable succession.

Rhododendron mucronulatum is among the first to show any color, mainly because of its habit of opening a few flowers at a time, often in December or earlier. After these freeze, another warm period occurs, and a few more blossoms appear. Finally, around February, the whole plant seems to explode with pink or mauve flowers of varying intensity. There is a mature hedge of *Rhododendron*



mucronulatum on Azalea Way and eventually it will be one of the featured species in the new Witt Winter Garden.

Some of the relatively small lepidote rhododendrons are represented in the Winter Garden because they are among the earliest to bloom (February and March). Their white-, pale yellow-, or variously pink-shaded flowers typify the flower colors of late winter. *Rhododendron moupinense*, *R. 'Cilpinense'*, and *R. 'Seta'* have white flowers blushed with pink. *Rhododendron leucaspis* is white. The wonderfully hardy 'P.J.M.' has mauve flowers complemented by leaves which assume burgundy tones in winter. *Rhododendron lutescens* and *R. 'Bo-peep'* offer a lemon-yellow contrast.

The Winter Garden also features a few of the larger elepidote species. These include the purple *Rhododendron ririei*, and the scarlet *R. strigillosum* and *R. barbatum*, which bloom in March.

Elsewhere in the Arboretum, during late February and early March, early-blooming members of the Fortunei series offer large inflorescences in shades of pink. *Rhododendron sutchuenense* var. *geraldii* is represented, among others, by large old plants in the Fortunei bed at the north end of Rhododendron Glen and especially by a spectacular mass planting above the steep, north-facing bank of the Glen, clearly visible from Arboretum Drive. *Rhododendron fargesii* blooms during this period, at the east edge of the rhododendron bed facing the Magnolia section.

In April, species and hybrids of the Thomsonii series greet the visitor approaching Rhododendron Glen from the north on the Hillside Trail. *Rhododendron thomsonii* itself has rich scarlet flowers

Glossary

Auriculate means earlobe-shaped leaf base.

Elepidote refers to leaves without scales.

Indumentum is the heavy pubescence on the underside of leaves.

Inflorescence is a cluster of flowers, also known as a *truss* in rhododendron terminology.

Lepidote means scaly-leaved.

that contrast beautifully with its blue-green leaves and branchlets. Thomsonii hybrids and *Rhododendron wardii* also are represented in this area.

By **mid-April**, Loderi Valley features the famous Loderi hybrids and other large-leaved rhododendrons. The Loderis are tree-like plants with twisted trunks and rust-brown bark; their immense trusses of fragrant flowers are poised above collars of ten-inch leaves.

The Thomsonii group and the Loderis are merely a prelude to the flowering of innumerable species and hybrids that bloom all over the Arboretum during **late April and May**. These are augmented by mass plantings of evergreen azaleas, especially along Azalea Way. Soon they are followed by deciduous azaleas and their parent rhododendron species such as *Rhododendron luteum* (the Pontic azalea) and *R. occidentale* (the Pacific coast native from Oregon and California).

A discussion of rhododendron performance during **late April and May** should include those species whose leaves bear a heavy indumentum. Many of these aristocrats wait for years to present their first flowers, but the new growth, covered with fawn or rust-brown pubescence, is as decorative as flowers would be. The Sino-Himalayan Hillside has a younger planting of these; older plants grow above Loderi Valley and along the Hillside Trail south to Rhododendron Glen. A special case, because of the richness of its pubescence, is *Rhododendron bureavii* which grows between the Glen and the Lookout. These plants offer their new shoots during the main **late April/May** blooming season.

Rhododendron bloom begins to taper off in **late May** when the fragrant *Rhododendron decorum* is succeeded by *R. discolor*—both are members of the Fortunei series. *Rhododendron griersonianum*, which blooms in **June**, has given rise to many hybrids such as the salmon-flowered 'Azor'. 'Azor' is featured in a northwest-facing bed along the Hillside Trail, just north of the steepest part of Rhododendron Glen. *Rhododendron hemsleyanum* (see article in this issue), with white flowers and ruffled leaves, also blooms in **June**. The latest of all is *R. auriculatum*, which waits until the **second half of July** or even **early August** to present its large white trusses above a ring of elongate leaves whose auriculate (ear-like) bases give it its specific name. Our finest specimen is best seen looking down upon it from just north of the Lookout. This large, rounded plant stands alone at the bottom of the hill, as beautiful in form as it is in flower.

(Opposite page) *Rhododendron Loderi 'King George'* in full bloom. Photo taken in Loderi Valley, the Washington Park Arboretum. (This page) *Rhododendron sutchuenense var. geraldii*, the Washington Park Arboretum.

Photos by Brian O. Mulligan



An unlikely extension of the season is presented by those plants whose calendars are slightly confused to the extent that they bloom **twice each year**. An excellent example is the willowy 'Yellow Hammer' whose elongate, sulfur-yellow flowers appear *en masse* in **late April and early May**, despite the fact that it has already expended a portion of its buds by blooming in September or early October. Other low-growing and often red-flowered hybrids tend to perform in somewhat similar fashion.

Thus, with some exaggeration, the rhododendron bloom season extends almost throughout the year, beginning about **December** with *Rhododendron mucronulatum*, and ending with that unusual and unseasonable **late summer or autumn** flowering of 'Yellow Hammer' and its associates.

Maps of the Arboretum are available at the Graham Vistors Center

As naturalist at the Washington Park Arboretum, Jan Pirzio-Biroli has had several years to observe the succession of bloom in the rhododendron plantings there, as well as those in her own garden and in many others of the Puget Sound area. She has a master's degree in botany (taxonomy) and is a former editor of the Bulletin.



The flowers of Rhododendron williamsianum.

Photo by Brian O. Mulligan

Fred Robbins: Reminiscences of a Species Lover

Jane Rogers, a former president of the Rhododendron Species Foundation (RSF), interviewed Fred Robbins, one of the founding members, at his home in Puyallup, Washington.

Fred Robbins was born in Ritzville, Washington, and studied forestry at the University of Washington. He worked for White River Lumber Company (now owned by Weyerhaeuser). According to his daughter Martha, before the 1940s "If he couldn't eat it, he didn't grow it." At the end of World War II, he became interested in rhododendrons at a show. "It's the reds that get the guys," Martha said, pointing out that the rhododendrons her father first liked were 'Brittania', 'Earl of Athlone', and 'Unknown Warrior'.

Fred started collecting camellias at the same time as rhododendrons, but he quit because when they were out of bloom, "they all looked the same." Fred now has 2 acres of rhododendrons on his 9-acre estate.

The Rhododendron Species Foundation (RSF) began in Oregon in 1964. In 1974, Fred Robbins arranged with George Weyerhaeuser for RSF to lease 24 acres of Weyerhaeuser property for a minimal price. The original plants brought from Oregon now comprise only a small percentage of the present collection.

Jane Rogers: Few people in this area were aware of species rhododendrons back in 1948. How did you become interested?

Fred Robbins: Lester Brandt got me started. He was the best rhododendron man in this whole area and he had species before anyone else. Actually, he began with the big-leaved plants. He got seed from England and China which he started in my greenhouse. So, I was growing species before I knew what they were.

I have quite a few trees here that are grown from Les's seed. He worked with the Washington Park Arboretum quite closely.

JR: What are the first rhododendrons that you got from Les?

FR: Mostly the big-leaved ones from England: *rex* and *fictolacteum* are two of the main ones, I think. The *fictolacteum* also has offspring on the

Rhododendron Species Foundation grounds. We lost the original in 1987—it was the largest one that I knew of in this area and the oldest one, too.

JR: Doesn't *rex* need a mild microclimate since it's not quite hardy here?

FR: If it's good and healthy, and you don't get too much weather, it will get by. But if it gets too cold, why it will fold up.

JR: Why do you like species instead of hybrids?

FR: Species have much more character than hybrids. Different leaves, sizes, and forms—from tiny to great big ones; smooth, leathery, fuzzy (with indumentum), spotted, spicy, fragrant, and with scales.

JR: You were saying that some of the ones from Lester Brandt are also in the Arboretum. Which ones did he give to the Arboretum collection?

FR: *Thomsonii*, *fictolacteum*, and *rex*. And quite a few others, including many of his own hybrids.

JR: You said that Brandt supplied many of the big species. Who was the supplier, or where did you get most of the little-leaved or the medium-sized species? England?

FR: I and other founders of the RSF were probably responsible for getting a lot of the small-leaved plants on one of my trips to England back in the 1960s. We also had a deal with quite a few people in the Species Foundation: I sent a list of species with people who were traveling to England. I would pay for them if they brought back what I wanted, and then the Foundation would get one, they would get one, and I would get one. For years we did it that way.

JR: How did you bring them from the gardens in England?

FR: I got the plants. The British gardens were the only places you could get species. I got them from individuals like the Rothschilds, and others whom I got acquainted with. Actually the people in England—the ones who got the seed—originally got them from expeditions in China. Hooker was one; Rock was one of them.

JR: I remember from being here before, that you were moving plants out here that I considered far too big to move. You did a wonderful job of keeping ahead of the overwhelming growth of these things by moving them.

FR: I said I could move anything that would grow on the place, and I can. I've moved every plant on this place, large and small.

JR: What's the secret of moving them and having them survive?

FR: Getting them into the ground as quickly as you can and seeing that they have excellent soil

around the small roots. Give them enough water—some people don't. Water them down the first week, and see that they never get dry for the first year.

JR: I remember you telling me when I was here one Sunday that you moved a great big big-leaved one.

FR: I used a tractor on that. I could move anything on the place in not over thirty minutes with the front loader.

JR: You have some wonderful miniature species. Which ones?

FR: *Repens*, *radicans*, and *keleticum*.

JR: Do you have any favorite hybrids?

FR: 'Loderi King George' is one of my favorites. There's nothing in this world that has a more pleasant fragrance than it does in bloom; it's white and blooms in May, most years.

JR: What are your favorite species?

FR: *Williamsianum* and *repens*. I didn't know anything about *williamsianum* until I got to England one spring.

JR: You were deeply involved in getting the Species Foundation started—it was largely due to you that there is a Species Foundation in Federal Way. It started with the Oregon collection. Tell us about the beginning.

FR: It started there because Milt Walker, who was a doctor, got the craving for rhododendrons that so many of us got. He had started quite a group of species on his 12 acres. Through that, I got acquainted with him. The two of us got together with a collection of species. It started at the Walkers and moved to Jock Brydon in Salem, Oregon, before it ended up in Federal Way.

JR: You were chiefly responsible for getting the collection out of Oregon and to the Weyerhaeuser grounds, where the RSF now is.

FR: Jock Brydon, who was watching many of the plants, came up and we thought, "Why not get one of the big outfits into this and let them sponsor it?" I pooh-poohed it. Then it became a matter of whether it was going to go or not, so I took on Weyerhaeuser. I spoke with George Weyerhaeuser and he thought it was a good idea, much to my surprise. In 1974, they gave us the use of 24 acres near the current Weyerhaeuser headquarters.

JR: Tell us how you moved the plants from Oregon.

FR: On my trailer! One of the chief helpers was a very special person in Olympia, Bruce Briggs, who had the largest nursery in Washington State. He'd go down with his truck and his load of things to sell.

Then he'd come back with one of our loads. I also made three or four trips. I never counted how many rhododendrons per load, but the trailer was eleven-feet long by four-feet high. We could stack them some, but not a lot. We had to be very careful because the limbs were brittle and they'd break up. If we packed them in too tight, we'd lose a few limbs, so we didn't.

JR: Even before you moved the plants up, you were at the Foundation's 24 acres supervising putting in countless truck loads of sawdust.

FR: It was hauled down from the Weyerhaeuser Everett mill to cover the whole 24 acres. We covered the whole place with 4-5 inches of sawdust, deep enough to kill all the grass and roots. Then we roto-tilled it into the soil. I don't know how long it took to haul the sawdust. I didn't keep track and I didn't take pictures.

JR: Where did you place the original plants?

FR: In a nursery bed. The planting scheme design didn't start for a year or so. It took a couple-three years to plant them all. Meanwhile we built a greenhouse and a lath house.

JR: An early section that was done was the Study Garden. It was started as a limited area for learning about the different species, their relationship to each other, and how they could be used in the landscape. Whose idea was it?

FR: I guess, just about everyone's.

JR: What is your favorite section on the RSF grounds?

FR: Well, you have different groups that are put together beautifully. The *repens* is one of my favorites. The leaves are about a half-inch long. Also the *williamsianum* and *thomsonii*.

JR: What do you like to plant with them as companion plants?

FR: I like ferns. Maidenhair fern and sword ferns planted right alongside the rhododendrons. You have a solid patch of sword fern and related ferns, then you have the rhododendron. You end up with a group of rhododendrons maybe four- or five-feet tall, and then you have the ferns coming up all around, solid like a grass.

JR: Do you use bark or mulch at your place?

FR: We use bark, chips, and sawdust for partial weed control.

JR: What do you use on your soil?

FR: There are several brands of fertilizers made now for rhododendrons and when they're properly used, they work very well. If you're going into it seriously, you should get twenty or thirty yards of cow manure and spread it two to three years before

you use it. This whole place has been covered with four or five inches of manure over three or four years. I don't do that as much now as I did, but I do keep 10 or 20 yards of manure in the back yard.

JR: In all those years of collecting for yourself, what were the fun collection trips?

FR: Probably the most interesting trips were to England. I went over and stayed in England for a few weeks at a time. We had introduction letters from many of the gardeners there to other gardeners. The letters were very beneficial because people on estates make a point of meeting you and greeting you. That way, we had access to a lot of gardens that, ordinarily, people wouldn't have.

JR: Now, most of those estates are National Trust, aren't they?

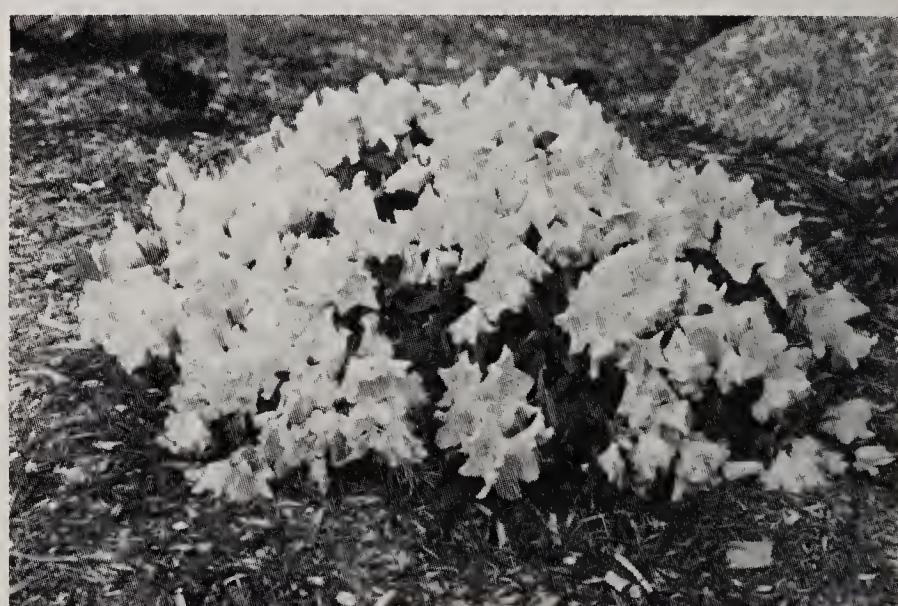
FR: Almost all of them.

JR: What are some rhododendron gardens you most admire?

FR: All of those gardens over in England, of course, are fabulous. The whole place was filled with gardens, really outstanding ones. I got down to the Bodnant Gardens in Wales which belonged to Lord Aberconway. I went to Wales about five times in the sixties and early seventies. I remember one place where they had filled big round basins with *williamsianum*. I never had seen any ten- or twelve-feet wide.

JR: Most people think of *williamsianum* as miniature, a foot across and six-inches high. Given a hundred years, that's not true.

FR: They had about eight or nine circling a pond—all huge *williamsianum*. I'd never seen anything like it, of course. Or even one that large. So, you really get quite an education on collection trips.



Dwarf form of Rhododendron keiskei (76-122) in the Species Foundation garden, April 1978.

Photo by Brian O. Mulligan

The Rhododendron Species Foundation Seed Exchange

by Richard V. Piacentini

The Rhododendron Species Foundation's exchange of rhododendron seed with China will yield special and rare plants.

As Washington celebrates its one-hundredth year in 1989, the Rhododendron Species Foundation (RSF) celebrates its twenty-fifth anniversary. Founded in 1964, the RSF has become one of the largest collections of rhododendron species in the world. It was established for the purpose of preserving, distributing, and displaying species rhododendron. Its 24-acre garden now contains over 8,500 rhododendrons and many companion plants.

In addition to the development of the garden, the Rhododendron Species Foundation has formed and developed many programs for plant distribution, pollen collection, education, and visitors. Volunteers assist in all of these programs.

The Foundation has worked for many years on establishing relationships with various Chinese botanical societies, and in 1985 hosted three Chinese botanists for the International Rhododendron Symposium sponsored by RSF. These botanists had the opportunity to visit the RSF garden, as well as the magnificent collection at the Washington Park Arboretum.

One of the most exciting new programs is the RSF seed exchange which was started in 1986 after receiving a large shipment of collected wild rhododendron seed from China. This seed was collected in the Yunnan province by Chinese botanists with whom the RSF has been working for a number of years.

In May 1988, four members of the RSF visited the new West China Center for the Conservation of Rare Plants in central Sichuan Province, at the invitation of the Institute of Botany, Academia Sinica. The Center is located about 50 miles northwest of Chengdu, not far from the famous Emei Shan (Mt. Omei).

Part of the Center is designated for a garden. It

will include 1,500 acres ranging in elevation from 5,000 to 14,000 feet. One of the Center's purposes is to conserve the rare and endangered plants of China. The staff will select plants with superior horticultural value to introduce into cultivation. Fifty acres have been set aside for the rhododendron garden at 1,500 feet.

The purpose of the RSF trip was to survey the site of the new rhododendron garden and to offer technical advice on the collection, cultivation, and propagation of rhododendrons. It also was to discuss the exchange of plants, seed, and personnel.

To aid in their selection for horticultural merit, the Chinese are interested in obtaining rhododendrons from the RSF to serve as a bench mark for making their own selections. Currently, the RSF has some of the best forms of species known to cultivation.

The RSF hopes this cooperation will lead to further opportunities for the exchange of seed, including those plants that are not in cultivation, such as *Rhododendron denudatum*; *R. hancockii*; *R. huianum*; *R. longipes* var. *chienianum* and *ochraceum*; and others that are known only from limited collections in the past, such as *R. galactinum*, *R. faurium*, and *R. eurysiphon*.

The seed program also is involved in producing seed from plants in the RSF garden by volunteers who carefully hand pollinate some of the best forms of species known. Much as hybridizers make crosses between species to combine various traits into new plants, at the RSF, crosses are made within the same species to accentuate desirable qualities in the offspring of these crosses. Wild-collected and hand-pollinated seed is first offered to members, and the surplus is then made available to the public. Seed from the 1986 shipment was distributed to members to grow for the RSF. Seed from the 1988 trip is due to arrive soon.

In our next 25 years, we look forward to continuing and further developing each of our many different programs. Like the Arboretum and other botanical gardens, work done in the spirit of cooperation leads to the greatest rewards and opportunities.

Richard V. Piacentini is the executive director of the Rhododendron Species Foundation. Since 1984, he has been responsible for curating the collection and administering the Foundation and its garden. Richard was born in New York and has master's degrees in business and in botany.

Some of the Best New Hybrids for Your Garden

by Elsie Watson

Elsie Watson—collector, hybridizer, and authority on Northwest rhododendron hybrids—notes some of her favorite new plants.

For many years, I have collected rhododendrons. My interest in hybridizing did not start until 1951 when I was given a clump of tiny rhododendron seedlings. Watching them grow opened up a whole new world for me and before long I was making crosses on the plants in my garden. Now, after some 35 years, I have registered six hybrids; I will discuss a few in this article, along with other new ones that are suitable for Pacific Northwest gardens.

Yellow currently is the most popular color rhododendron, but I have favorites in all the color groups. All of the following plants are either at rhododendron nurseries, or will be available soon.

The late Lester Brandt of Tacoma was a noted Northwest hybridizer who had a large collection of both hybrids and species. One of his crosses ('Britannia' x 'Goldsworth Orange') resulted in two popular hybrids, 'Kubla Khan' and 'Tropicana'.

'Kubla Khan' has a ruffled corolla in shades of **salmon, pink, and orange**. With a little shade from the sun, it grows into a medium-large umbrella-shaped plant with nice light green foliage.

'Tropicana', a parent of some of our newest hybrids, has **orange-salmon** flowers with a very large calyx of the same color.

In 1971, Dr. Ned Brockenbrough, who then was president of the Seattle chapter of the American Rhododendron Society, crossed 'Tropicana' with Karl Sifferman's 'Hotei': 'Goldsworth Orange' x (*Rhododendron souliei* x *R. wardii*). From the seed, some real winners have emerged: 'Paprika Spiced', 'Pineapple Delight', 'Papaya Punch', and 'Apricot Fantasy'.

'Paprika Spiced' has flowers that are a mixture of **orange, peach, gold, and yellow, liberally peppered with paprika red**. A large matching corolla makes it a very interesting truss which sets well on medium green foliage.

'Pineapple Delight' has **amber yellow** flowers shaded lighter at the edge with a creamy yellow



'Top Banana' (B. Whitney photo). *'Marley Hedges'*, opposite page (G. Bancroft photo).

throat and a large calyx. When I first saw it I was impressed that it is truly the color of fresh pineapple.

'Papaya Punch' has deep yellowish-pink buds that open to light **yellowish-pink** flowers with pale orange-yellow edging. Bright yellow flares are found in all the lobes of the flowers with red spotting on the flares.

'Apricot Fantasy' was grown by Jeanine Smith, currently president of the Seattle Rhododendron Society. It has a perfect truss made up of corollas in subtle shades of **apricot blending with orange and pink**, with a red flare in the throat and a very large calyx. 'Apricot Fantasy' was given a high rating by the Northwest Rhododendron Hybridizer's Group.

The late Hjalmer Larson of Tacoma made a cross that has produced some new winners. 'Mrs. Lamont Copeland' is the seed parent with **vivid yellow flowers** and nice dark green foliage. 'Mary Drennen', the pollen plant, has large trusses of **clear yellow flowers** and olive green foliage. Four of the seedlings from this cross have been registered and are as follows:

'Pacific Gold' starts with bright-orange red buds that open to **golden yellow** flowers with pale yellow margins.

'Diny Dee' has buds like 'Pacific Gold,' but they open to an intense **bronze yellow** with twin rays of brown.

'Buttered Popcorn' is really outstanding with its very dark eye and again, like 'Diny Dee', has those twin rays of brown that set off its **yellow corolla**.

'Hazel Fisher' was introduced recently and is somewhat like 'Buttered Popcorn', but has hues of **yellow, lavender, and apricot**.

Another cross made by Dr. Brockenbrough is

‘Hotei’ x ‘Lem’s Cameo’. The perfect trusses of ‘Lem’s Cameo’—one of my favorite rhododendrons—are made up of flowers in beautiful shades of **cream, apricot, and pink**. The result of the cross was May-blooming ‘Nancy Evans’, named after the wife of the former Washington State governor. ‘Nancy Evans’ has orange-red buds that open to **amber yellow flowers**. It grows nicely in my garden in a bed with other yellows.

British Columbian Jack Lofthouse also made a cross of ‘Hotei’ x ‘Lem’s Cameo’, resulting in ‘Butter Brickle’. I got my first ‘Butter Brickle’ in the summer of 1988; it will be released to the public soon. Mine is loaded with buds, and I look forward to seeing it bloom in May. The **golden yellow flowers** are edged in buttercup yellow and have a bright red blotch in the throat. They are nearly covered by a large calyx of the same color.

Also from Jack Lofthouse comes ‘One Thousand Butterflies’ (‘Lem’s Cameo’ x ‘Pink Petticoats’). When I was a judge in a Vancouver show several years ago, I saw it for the first time. It is really beautiful. The huge trusses are made up of many flowers in exotic hues of **rose**, with a bright red blotch and butterfly-shaped flare.

The New Breed of *Rhododendron yakushimanum*

A whole new breed of rhododendrons has emerged in the *Rhododendron yakushimanum* hybrids. They are very pleasing and well suited for the average garden because they are low-growing, spreading plants. They fit into the smaller modern landscape very well and are hardy.

Don’t put them under other plants because they need full sun and good drainage. The foliage is generally attractive, particularly as most of them have indumentum to various degrees and in varying shades of gray, tan, and brown— inherited from their parent *Rhododendron yakushimanum*. It is hard to get a good yellow flower in this group.

My favorite Yaku is ‘Noyo Brave’ (‘Noyo Chief’ x *Rhododendron yakushimanum* ‘Koichiro Wada’). I first saw it at a Seattle Rhododendron Society Show held at the Center for Urban Horticulture. The bright **pink** flowers seem to glow when they first open and then fade to a delicate shade of pink. I have one that I love in a small bed outside my living room window, alongside the Exbury form of *R. yakushimanum*.

‘Elya’ [(‘Fabia’ x *Rhododendron bureavii*) x *R. yakushimanum*] has a compact truss of **rosy pink** flowers and beautiful dark green leaves that have a tan indumentum with a touch of greyed orange.



‘Crimson Pippin’ (*Rhododendron yakushimanum* x *R. sanguineum* ssp. *haemaleum*) is a semi-dwarf plant. It looks beautiful in the rock garden with its silver tomentum which holds until fall. The **currant red** flowers are a change from the lighter colors usually found in *R. yakushimanum* hybrids.

‘Bambino’, (*Rhododendron yakushimanum* x ‘Brittania’) x ‘Lem’s Cameo’, comes in pastel colors of **apricot, pink, and yellow**. It was named for the logo at Children’s Orthopedic Hospital. The full truss of ruffled corollas shows the influence of ‘Lem’s Cameo’.

A new hybrid that is much in demand because of its **deep yellow** color is ‘Top Banana’ which was hybridized by the late Bill Whitney of Brinnon, Washington. ‘Hotei’ may have been used as one of the parents because the bloom color is the same—along with leaf size and shape. I have a little plant in front of the house and it is really yellow. I think that in fifteen or twenty years it probably will be in the medium size range.

Two very popular rhododendrons for the rock garden are ‘Patty Bee’ (*Rhododendron keiskei* ‘Yaku Fairy’ x *R. fletcherianum*) with **pale yellow** flowers almost covering dark green foliage; and ‘Ginny Gee’ (*R. keiskei* prostrate form x *R. racemosum*) with **pink** flowers in a mass enhanced by dark green foliage. These plants, from Warren Berg on the Olympic Peninsula, grow into perfect mounds and are attractive all year long.

Violet and Purple Shades

If you are interested in the violet and purple shades of rhododendrons, several new introductions are available.



'Blue Boy' (G. Bancroft photo).

In June 1987, a truss of 'Swamp Beauty' ('Purple Splendour' x 'Loderi Superlative') received the "Best Hybrid" award in the Northwest Rhododendron Hybridizers Show at the Meerkerk Gardens on Whidbey Island. 'Swamp Beauty' had the nicest truss with its **orchid pink** flowers that have a light center with a large maroon blotch. It has dark green foliage and an upright habit of growth.

In 1965, I made the cross of 'Blue Ensign' x 'Purple Splendour' and hit the jackpot: Out of it came both 'Blue Boy' and 'Blue Hawaii'.

'Blue Boy' has more **blue or violet coloring** than any of the others and its intense—almost black—blotch makes it outstanding. I thought of the blue in Gainsborough's *Blue Boy* and so gave it this name. The flowers are funnel-shaped and of a vibrant violet with wavy edges. They are held in a tight truss of up to twenty flowers.

Its sister seedling 'Blue Hawaii' is more on the **lavender-purple** side and was named because its beautiful, very ruffled flowers reminded me of orchids and Hawaii.

Another of my crosses is 'Katrina' ('Lem's Anna' x 'Purple Splendour') which has **magenta** flowers. The true color is hard to describe. It is more pink than purple—a purplish-pink. Grower Bruce Briggs told me that it always stood out in a field because of its very eye-catching black blotch.

I named my nicest and newest hybrid 'Marley Hedges', sister seedling to 'Katrina,' for my good friend (and Arboretum member) who likes **purple**. It was hybridized in 1969, registered in 1987, and won the "Best New Hybrid" award at the Seattle Rhododendron Show at the Arboretum. The truss is very large, made up of some twenty-four openly funnel-shaped flowers. The inside of the flower is white with a ruffled reddish-purple margin and a purplish-red blotch. The reverse side of the corolla is also a strong reddish purple. The leaves are long

and dark green; it has an upright habit of growth. 'Marley Hedges' is being propagated by cuttings and this coming year will be put into tissue culture.

Dr. Frank Mossman of Vancouver, Washington, gave us an outstanding hybrid, 'Taurus' ('The Honorable Jean Marie de Montague' x *Rhododendron strigillosum*)—a magnificent shrub with its long dark green leaves and huge trusses of a **blood-red** color. It won the 1988 Award of Excellence from the American Rhododendron Society and was rated the "Best Hybrid" growing in the Meerkerk test garden for 1988, having the highest rating. Forget about hybridizing with 'Taurus'; although it will accept pollen freely, it will not set seed.

Rhododendron shows are a wonderful way to learn about the new hybrids. The Seattle Rhododendron Society has three each year: in April (at the Center for Urban Horticulture), in May (at the Arboretum), and June (at Meerkerk Rhododendron Garden on Whidbey Island). Call Jeanine Smith, (206) 483-8272, for information.

Glossary

Calyx consists of several leaf-like parts. Sometimes it is green like the pedicel to which it is joined; sometimes it is very enlarged and the color of the flower petals.

Corolla is the part of the flower inside the calyx consisting of several petals, usually colored.

Flare is a bright patch on the upper inside lobes of the corolla, usually in a deeper or a contrasting color.

Indumentum is a hairy covering found on the underside of a leaf. Its texture varies from felt-like to coarse and can vary in color from grayed white to shades of tan and brown (often with a touch of grayed orange or yellow).

Tomentum, when used in reference to rhododendrons, is a downy-appearing cover composed of matty, woolly hairs that appear on new foliage.

Truss is a cluster of flowers

Elsie Watson has been a member of The Arboretum Foundation since 1958 and is in Unit 41, as well as the Mae Granston Rhododendron Study Group. She has been a member of the American Rhododendron Society since 1948 and is a co-founder of the Northwest Rhododendron Hybridizers Group. Presently, Mrs. Watson is on the Garden Committee at Meerkerk Rhododendron Gardens.

Armillaria: The Little-Known Villain

by Kendall W. Gambrill

*You can foil the villainous Armillaria mellea
by applying certain cultural practices
to your rhododendrons.*

So, late last summer your rhododendron just collapsed on you? And you say that in October your garden sometimes looks more like a mushroom patch than a rhododendron planting? Well, there may not be an easy solution to your difficulties, but you do have some choices—if the culprit is *Armillaria mellea*.

Your first choice is what to call it, because *Armillaria* goes by *bootlace fungus*, in Great Britain; *oak root fungus*, in California; and *honey fungus* in many areas, including the Pacific Northwest. You also have another choice: Either you can accept fate and enjoy eating the mushrooms—if you can correctly identify those of *Armillaria* which are tasty and safe—or, you can concentrate on saving the rhododendrons.

For years, the British have bemoaned the scourge of *Armillaria* and preached abstinence from the use of wood products: Soil amendments, garden features, and aids—even label stakes—might be hosts. The British also warn to remove wood and dead roots before planting a new garden.

To lumberjack America, the British concerns seemed rather eccentric. Here, the wood-free garden is incomprehensible because dead trees are the only thing between some people and the wilderness—and between others and unemployment. Stumps from the virgin forest are revered artifacts in many gardens; ornamental ground bark covers the wounded landscapes of fast-food restaurants and condos; and sawdust is practically a necessity of plant production. Unfortunately, *Armillaria* is here, and probably always has been. Like the slug, it must be recognized as a fact of life in Northwest gardens.

And how do you recognize this rhododendron killer? When you first spot a victim in late summer, you might suspect simple drought or a *Phytophthora* root-rot fungus since they also can leave you with a rhododendron whose leaves have curled up and died. *Armillaria* usually kills in late summer, but unlike drought or a *Phytophthora* root-rot fungus, it often

starts with the death of a branch or two before the whole plant gives up. Of course, if the ground is bone dry and hasn't been watered for a month or more, then your plant may have died of thirst.

The best way to identify the murderer is to inspect the roots and base of the trunk closely. You may find funny-looking black “roots” with a curiously brittle paper-thin coat, encasing an elastic white core; the whole thing is of fairly uniform thickness. They may be entwined among the rhododendron roots—or perhaps attached to the trunk. When that is the case, you likely have found *Armillaria*.

If the warm, damp soil of your plot smells strongly like the mushroom bin at your grocer's, then the likely cause of death is *Phytophthora*.

Where do you turn to defend against the aggressor? Unfortunately, not even *Star Wars* is sophisticated enough to deal with such garden fungus problems as *Armillaria* or *Phytophthora*, which also is deadly. There is no handy spray or soil additive to remove the threat of these killers from our plants.

I consider that the best defense is to apply intelligent cultural practices which assist the rhododendron in maintaining good health and deter the fungus from running rampant. So, when faced with *Armillaria*, you can do like gardeners in Great Britain and the Pacific Northwest:

1. Limit rotting wood in your area. Remove old roots and scrap wood that you run into when preparing a planting site.
2. Do not mix sawdust into the soil and do not mulch with bark.
3. Be sure that the base of the trunk is at least an inch above the soil surface and don't be alarmed if some of the main roots are visible where they join the trunk.
4. Be sure that the soil is well-drained and kept as cool as possible during the summer (by planting on a north-facing slope, shading from the sun with other plants or structures, and using light, but efficient, mulches).
5. And do not panic when your rhododendrons wilt and curl their leaves on a hot July or August day; that is their natural and perfectly-adequate response to low humidity. Avoid soaking the soil at such times. Although you are doing little to help those leaves that are broiling in the hot air, you are doing a lot to furnish the fungus with the warm, moist soil conditions in which it flourishes.

See Kendall Gambrill's article on *Rhododendron vernicosum* and *R. hemsleyanum* in this issue.

The Man Who Loved Plants

by Gwen Bell

We are grateful to Halfdan Lem for going into the nursery business and leaving us his legacy of beautiful cultivars. His letters tell what it was like to become a nurseryman and hybridizer of rhododendrons.

There once was a man who loved plants. In fact, the love of rhododendrons changed his life so completely that he went from being a fisherman to being a nurseryman and rhododendron hybridizer.

Beauty took many forms for him:

In Alaska I had both the wolf and the owl to listen to when the nights got cold. [That was] most so when I anchored my boat in certain harbors where no people lived. There are yet many wild spots even in southern Alaska among all these islands and fjords. I know well all these harbors and I know every shallow spot and every deep spot—almost to the inch—in the whole southeast Alaska. I was there for twenty years moving around in my fishing boat, summer and winter. It was an interesting life for young, wild people.

He told friends that he raised tiny rhododendron seedlings on those fishing boats. Perhaps this was the beginning of a new line of work, for eventually his enthusiasm grew so great that he felt a need to seek a more suitable place to raise rhododendrons.

This transplanted Norwegian, Halfdan Lem, and his wife, Anna, moved themselves and their plants to the Seattle area between 1933 and 1934. Their purpose was to establish a nursery. Although Lem's primary love centered on rhododendrons, he raised Japanese maples and magnolias as well. His 1949 catalog listed such plants for sale as trilliums, blue Tibetan poppies, the Christmas rose, heathers, and camellias.

Not all was perfect in the nursery world, for he wrote ruefully in 1963:

I don't believe a single nurseryman here could make a good living if it wasn't for the landscaping business which goes with it. It is on this they get their profits. Yes, I mailed a box of young rhododendrons worth 75 dollars to North Carolina the day before yesterday. Then I sold rhododendrons for 105 dollars yesterday. But just before our party last night my wife told me: 'I have now spent forty-two

Rhododendron A Bi

In my desk drawer lies a little-worn brown notebook of rhododendrons of that time. One name on the name 'Big Red' does not reflect all of the surrounding suggestions that it still merits our attention over.

The rhododendron, casually called 'Big Red' 'Big Red's' parents was 'The Honorable Jean Marie' and 'Red'. The rhododendron passed on characteristics of vigor, deep-green leaves. The intense bright-red color by 'Jean Marie' and by its other parent, an un-

Many local and out-of-state gardeners remember that belonged to Anna and Halfdan Lem. It was magnolias, and certain companion plants and trees. One of Lem's better hybrid rhododendrons, officially Lem called and wrote to some of their friends and It was a fact that Lem was particularly fond of rhododendrons that one of his goals always was to develop the best red. This rhododendron 'Big Red' fit the criteria and 'Big Red' rhododendron, a selected clone from the catalog and 'Red Loderi', was named *Rhododendron*

Rhododendron 'Halfdan Lem' has beautiful clusters of trusses of red. It is easy to grow and is a plant which is and vigorous in the landscape. Its thick leaves

The 'Halfdan Lem' hybrid has won numerous awards from Greer Gardens, a truss of 'Halfdan Lem' (1) best in the show; (2) best red in the show; and (3) best

Propagation is not always easy, but the rhododendron tissue culture, it usually took as much as twenty

Now the 'Big Red', underlined in that little notebook, is, under either name, a showy, beautiful, and reliable plant the year round.—Gwen Bell

dollars for this party—booze included! So I had to figure—here went my sales! Today I sold for only \$15. Three cows could do better than this! But as I told you before, our income from the nursery, small or big, doesn't bother us anymore.

Rhododendron hybrids resulting from the more than 2,000 crosses that he made amounted to thousands upon thousands of new seedlings. He aimed to improve the breed, select for usefulness, and add variation to the world of rhododendrons. He also struck large numbers of cuttings and, in 1964, wrote:

Four to five thousand [cuttings] are about all I can do. It is 'darned' slow work walking

Halfdan Lem' & Red

book containing a 1960s list of outstanding new rhododendrons. The first on the list is 'Big Red' and it is underlined. Although Halfdan Lem was well aware of the superior qualities of this rhododendron, that underlining was done a quarter of a century later.

As created by the late Halfdan Lem. One of 'Big Red' is 'de Montague', a fine red-flowered hybrid. This hybrid, with its dark, leathery, rounded leaves and heavy-textured, long, pointed, dark red flowers in large, well-filled trusses was bequeathed to 'Big Red' both by Lem and by his son, the registered hybrid known as 'Red Loderi'.

Anna Lem, Lem's widow, ran the nursery just off Aurora Avenue, in Seattle, for many years. It was a wonderful place, crowded with rhododendrons, azaleas, and camellias. After Lem died in 1969, Anna wished to register a new rhododendron, giving it the full name of her late husband. Mrs. Lem had many customers in the nursery asking for suggestions of a suitable plant. Lem had many rhododendrons that had huge trusses of flowers, and he had many that were red or pink or white. Anna approved it as being appropriate. So the 'Big Red' hybrid was registered between 'The Honorable Jean Marie de Montague' and 'Red Loderi' as 'Halfdan Lem'.

'Halfdan Lem' is a tall evergreen shrub with dark green foliage of great substance, plus lovely full trusses of flowers. It will, in time, become a tall shrub. It is evergreen and will grow well in full sun or partial shade, and will stand considerable amounts of sunshine. It has won many awards in shows. According to a 1987 catalog of the nursery, it has stayed in a rhododendron show won (1) best truss and (1) best plant in an American hybrid.

'Halfdan Lem' is readily available now. Until the advent of 'Hello Dolly', it was the only Lem rhododendron available. Lem, in his brown notebook, has become 'Halfdan Lem'. It is a good, reliable rhododendron—one that is a fine garden plant.

'round for to find all these different scions in
the woods.

It is an adventure to amble through the rhododendron areas of the Washington Park Arboretum to see what Lem plants are thriving there:

The low-growing rhododendron bush 'Ann Carey', named by someone other than the Lems, is there. 'Ann Carey' shows off light yellow flowers touched with bits of pink tint.

The magnificent 'Lem's Monarch' thrusts up tall, well-filled trusses of white flowers edged with pink; it has nice foliage, too. Both of these Lem rhododendrons stand near the top of the hill on the Memorial Hillside, an area devoted to planting of



Top to bottom: 'Halfdan Lem'; the foliage of 'Lem's Cameo'; and 'Hello Dolly'.
Photos by Gwen Bell.

American rhododendron hybrids.

'Red Walloper' also is growing into a fine specimen on the Memorial Hillside, along with 'Hello Dolly'. 'Hello Dolly' resulted from a *smirnowii* cross. He was proud of it for he said:

'Hello Dolly' should, in my opinion, be the finest hardy yellow rhododendron in the world today. It may well be hardy to 15-10 degrees below zero. It is good in all ways and it roots 100% [of the time]. 'Lem's Cameo' may have nicer flowers, but is not as hardy—perhaps to zero only.

When 'Lem's Cameo' was introduced in 1963, it was a decided leap forward in rhododendron hybridizing. Immediately following that introduction, it was in great demand. In 1965, he wrote about the problems resulting from the popularity of 'Lem's Cameo':

I'm so far behind that it may take a couple years to fill these orders. So I don't take any more orders hereafter. We tried to divide the only large plant I have of ['Lem's Cameo']. But to all unluck [sic] we didn't get any good roots on the two divisions. I doubt we will save them. I could, of course, multiply it faster by budding it on *ponticum*. I may have to do so next, if I live. By right, 'Cameo' should root well in my opinion. Only that it sets so few branches where it now is standing and to move it may well set it back a year or two. So there I'm stuck. It is rather a slow grower.

Mrs. Lem commented years later that he never did find a sure-fire formula for consistent rooting. Some seasons, all its cuttings "took," and some years few of them rooted.

Though Lem had good luck in propagation, a few

rhododendrons defeated his ability:

My cuttings start to root pretty good [sic], but if you can root 'Naomi' and the Loderis, you do better than me [sic]. I never had luck with them and I never try again. So I just graft and save on the swearing!

What a legacy this man left to us and to the hybridizers who carry on the work, using many Lem hybrids as a basis for new and exciting rhododendrons!

When Lem's health began to fail, he thought of retiring, of buying a place of "good grounds" close to the water with good harbors. But, he lamented:

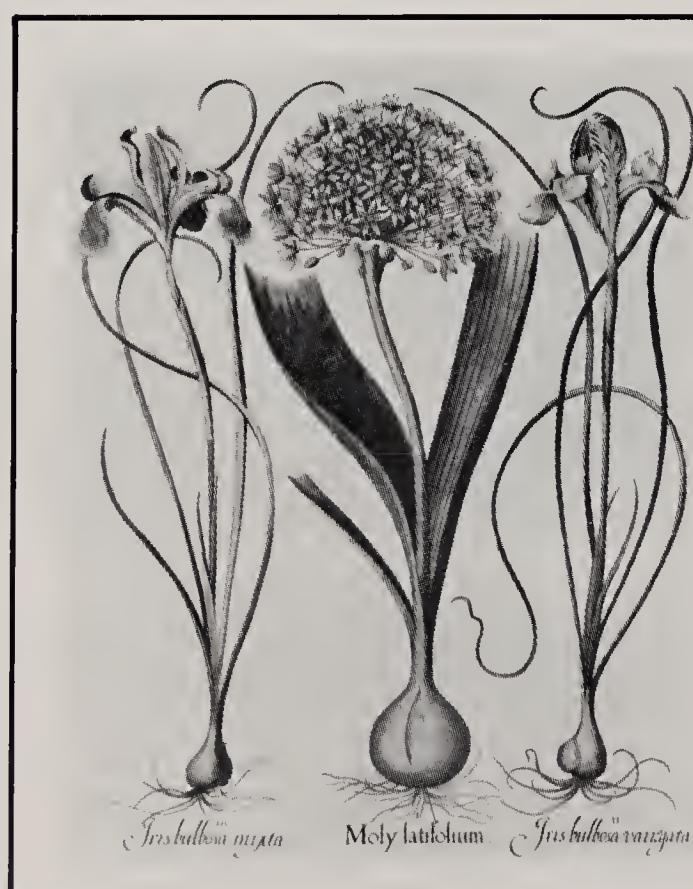
... of course, my wife always tells me 'Just sell out everything you have here and take it easy for the rest of your life.' She doesn't get the enjoyment of rhododendrons as I do. And what will life be for me without them? Towns life for me is sure death. I hate towns—they are all alike and nothing of interest to a man living in the free all his life.

It is now midnight and I have to start on my usual walk in the woods for to move the sprinklers for the night. My wife and our two cats follow in case I should fall over and go to the everlasting sleep beneath the good old fir trees.

That was written in 1966 and Halfdan Lem left us forever in 1969.

Many thanks to James Elliott of Knappa, Oregon, for the use of Halfdan Lem's personal letters.

Gwen Bell, historian of Halfdan Lem, is a long-time member of The Arboretum Foundation. She is active in the Rhododendron Species Foundation and the Seattle Rhododendron Society. One of the Walloper's was named after her.



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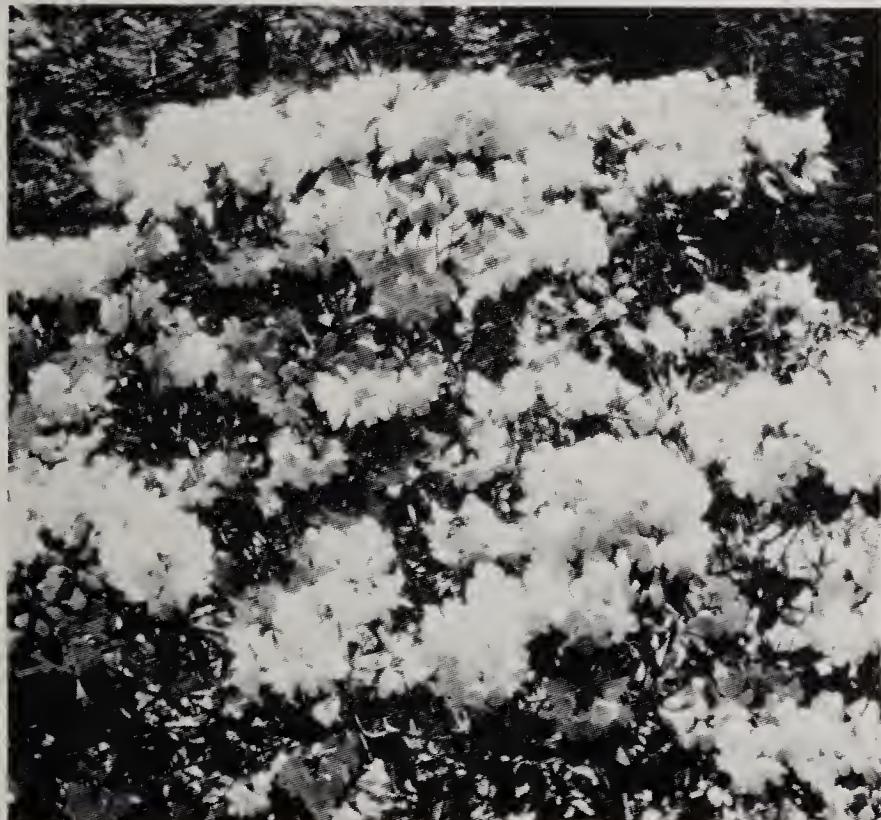
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The Saga of *Rhododendron* *vernicosum* and *R. hemsleyanum*

by Kendall W. Gambrill

The trail leading to the oldest examples in the United States of two species ends at the Washington Park Arboretum, where they reside unceremoniously.

Rhododendron vernicosum



I was struck by the rhododendron bug while still living in Maryland. It's a difficult affliction there because the climate is tough on the plants and there are few sources for unusual varieties. Fortunately, one of this country's rhododendron pioneers lived just across the Mason-Dixon line in Pennsylvania. So in 1967, I went up to Joseph Gable's when I decided that I would like to try some *Rhododendron* species.

Mr. Gable was a no-nonsense, kindly, grandfatherly type who sorted my rhododendron wish list into "won't grow," "might grow," and "usually grows." Luckily, one of the "usually grows" species was one that I wanted—*Rhododendron fortunei*. So we got into Gable's pickup, bumped down to his Little Woods—with dog and shovel in back—and found a plant.

During our search through this casual woodland nursery area, Mr. Gable introduced me to *Rhododendron vernicosum*, a "might grow" relative of *R. fortunei*. These *vernicosum* plants carried the collector's number: Rock #18139. Gable's persistence had yielded two winners: "#1," with fragrant, peach-pink flowers and hardiness to -5° F; and "#2," also fragrant, but with light pink flowers and hardiness to -10° F.

As I studied rhododendrons over the next several years, I learned of three challenges to the authenticity of Gable's *Rhododendron vernicosum*:

1. Coming from China's Yunnan Province, it should not have survived Pennsylvania winters.
2. The Royal Horticultural Society had no record of collector's number Rock #18139 in its authoritative listing.
3. The Pennsylvania survivors developed more rapidly to small tree stature and produced larger flowers than the descriptions of *vernicosum* allowed.

Eventually all objections were overruled. First of all, one of Gable's lasting contributions to gardeners was finding individual plants or developing strains of species that did well in the continental climate characteristic of eastern North America. He did it with *Rhododendron fortunei*, *R. racemosum*, and *R. hippophaeoides*. It was conceivable that he achieved a similar success with *vernicosum*.

The confusion due to collector's number was answered by a more scholarly explanation. In the mid-1970s, Colonel and Mrs. R.H. Goodrich of Virginia led an investigation of Mr. Gable's records and eventually those of the United States Department of Agriculture (USDA), to explain #18139. It seemed that Dr. Joseph Rock collected herbarium specimens and seed in Yunnan during the fall of 1929, while working for the National Geographic Society. The Goodriches found that three numbers had become attached to the same seed: Dr. Rock listed this rhododendron as his #18139. The USDA assigned a Plant Introduction Number (#03788) upon receipt from the National Geographic Society, then gave a Plant Introduction Number (#84054) when seed was distributed. Joseph Gable stuck by the valid collector's number.

The atypical details of plant stature and flower remained a point of contention. Mr. Gable responded to early critics in the 1950s by pointing out that the original herbarium specimen sent to Edinburgh in 1930 had been identified by Sir William Wright Smith as *Rhododendron vernicosum* aff. "Affinity"

(aff.) is the precise scientific way of saying that a plant appears similar to a recognized species, but that there is a reluctance to assign it to that species. A natural variation of *vernicosum* could be expected to grow more vigorously and produce larger flowers.

Gable's explanation seemed reasonable to me until the spring of 1973 when I had my first opportunity to examine the flowers of R#18139 *vernicosum* aff. in a Portland, Oregon, nursery. I was disappointed to discover that they lacked the red glands along the style (the centermost thread-like flower part), which is the classic diagnostic feature of *vernicosum*. Using the key in *The Species of Rhododendron*, I placed these specimens closer to *fortunei*. Perhaps the seed had been mislabeled from the beginning; perhaps the divergence was explained by the hybridization in the wild. Having no knowledge of the British plants under USDA numbers, I became a doubter about #18139 at that point.

But my doubts were put to rest several years later when one of my ramblings through the Washington Park Arboretum brought me to a small tree labeled "Rho. sp. 18139." As a rhododendron papparazzo, it was like bumping into the rhododendron equivalent of Elizabeth Taylor in person.

The flowers on the Arboretum plants demonstrated that there was no need to hedge with the term *affinity*. These were true *vernicosum*. Red glands sprouted up and down the style and the relatively small, light pink corollas gave no fragrance. Further, the size and shape of leaf placed these plants clearly within typical *vernicosum*.

Arboretum records explained the unlikely circumstances leading to these *vernicosum* growing in Seattle. They were 1938 gifts of Mr. C.O. Dexter, a Massachusetts businessman who pioneered rhododendron growing and hybridizing on Cape Cod between the two world wars. I knew he had freely exchanged information, seeds, and plants with Gable. The Arboretum plants undoubtedly originated from the same wild seed that Joseph Gable once had.

In the saga of #18139, the western migrants that are sheltered quietly in the Arboretum remain unassuming in their position as the oldest documented representatives of their species in America.

Rhododendron *hemsleyanum*

Another species of the *Fortunei* subsection was the subject of discrepancies in the 1950s and '60s. British authorities considered *Rhododendron hemsleyanum* (as shown on back cover) not to be in cultivation, although American gardens sported plants

labeled just that.

These American plants were typical of the subsection with their large (to 5-inches across), fragrant white flowers on vigorous shrubs. But they were distinct in the very large foliage—leaves to 8-inches long and half as wide with wavy margins and generously-rounded bases. They also were robust plants, capable of 16-inch spurts of growth.

E.H. Wilson discovered and named *Rhododendron hemsleyanum* in 1904, but for the next 80 years Europeans failed to collect it and introduce it into cultivation. Fortunately for rhododendron growers, the Chinese scientist H.H. Hu collected seeds of several distinctive rhododendrons on Emei Shan (Mt. Omei) in 1947 and sent the gatherings on to the Arnold Arboretum. From the turn of the century, Arnold had watched hundreds of Chinese rhododendrons perish in the Boston climate. Out of the numerous seed lots collected by E.H. Wilson for Arnold from 1906 to 1919, only *schlippenbachii* and *micranthum* survive. So, when the fresh lots of Dr. Hu's seed arrived in Boston in 1947, a portion was sent on to the Washington Park Arboretum and was received on August 11.

The well-traveled seed included Hu #8823 *Rhododendron hemsleyanum*, which germinated and yielded sufficient plants for trial in the Arboretum and for sharing with other West Coast rhododendron collections.

Director Emeritus Brian Mulligan reports that plants were sent from the Washington Park Arboretum to the University of California Botanic Garden at Berkeley; to the American Rhododendron Society's test garden in Portland, Oregon; and to the Botanical Garden of the University of British Columbia. Two local nurserymen received plants: Endre Ostbo and Lester Brandt. Cuttings were sent to the Royal Botanic Garden, Edinburgh, in 1963 and 1964.

By the 1960s, *Rhododendron hemsleyanum* was producing its sumptuous, fragrant white flowers in northwestern America, while still being termed "not-in-cultivation" by the British. When, in the 1980s, Australian and British plant enthusiasts finally managed to collect *hemsleyanum* in China, the species already was well-established in gardens in their own countries and around North America—a notable legacy of the Washington Park Arboretum.

Plant enthusiast Kendall Gambrill owns British Gardens, a design and consulting business. He is the former curator of the Rhododendron Species Foundation, and is a member of the editorial board of the *Washington Park Arboretum Bulletin*.

What Was the Color of That Flower?

by Bob Badger

It must have been the late 1960s when I first searched among the descriptions of the Glenn Dale evergreen azaleas in my copy of Frederick Lee's *The Azalea Book*. I wanted to know the color of several exciting new cultivars that I had been hearing about from friends.

One was described as "lighter than Eugenia Red, flushed Begonia Rose, blotch darker." A second clone was "La France Pink, darker at margins, heavy blotch of Tyrian Rose." A third clone was described as "between Liseran Purple and Magenta, but brighter than that in appearance—dots a little brighter than Aster Purple but not as bright as Rhodamine Purple." The color references were from *Ridgway's Color Standards and Nomenclature*.

I decided to borrow a copy from a Rhododendron Society member and determine the actual color. Alas, not one copy was owned by Society members, and likewise there were none in the public library. It turned out that the *Ridgway Color Standards* (1912) was published over 50 years ago, and everyone now used the Royal Horticultural Society's *Horticultural Color Chart* (1940).

Yes, they told me, this was the standard for flower color, *except* for a few flowers that were described by using *Munsell's Book of Color* (1929 et seq.), and quite a few other flowers that were described in the *Nickerson Color Fan* (1957).

Do not despair, I was told. A brand-new, updated version of the Royal Horticultural Society's *Horticultural Color Chart* was just printed last year (1966) and the Tacoma chapter of the American Rhododendron Society (ARS) probably will get it in a few months.

Resigned to the difficulty of deciphering the color names in the catalog of the "spectacular new gorgeous Glenn Dale azaleas," I went to a nursery and looked at a few blooming plants of the Gable Hybrid azaleas. I selected two, planted a bunch of petunias to fill the bed, and completely forgot about the Glenn Dale problem.

In about 1971, I developed a hybrid deciduous azalea and named it for the favorite whiskey of a friend who raised the seedlings for me. The hybrid is a fragrant, soft orange. I described it by using the old *Horticultural Color Chart* (1940) as follows: ". . . vivid reddish orange 28A, blotch orange-yellow 23A." Now, isn't that much better than the

way those three previous Glenn Dale azaleas were described? Perhaps, except for the two notations, "28A and 23A"—you must *have* the *HCC* color fans to see the described color.

Then, in 1984, something happened to help me out with my dilemma: A 44-page pamphlet entitled *A Contribution Toward Standardization of Color Names in Horticulture* was published through the ARS. The authors were Robert D. Huse, radiologist and rhododendron fancier, and Kenneth L. Kelly, a recognized authority on color with forty years of color research and experience at the National Bureau of Standards. The editor was Donald H. Voss, a long-time evergreen azalea fancier.

In this short comprehensive work, is a table containing the following:

1. the 1940 Royal Horticultural Society's color chart (chips);
2. the 1960 Royal Horticultural Society's color fans and names; and
3. the precise Munsell coordinates to the simple new Universal Color Language (UCL) or Inter-Society Color Council - National Bureau of Standards (ISCC-NBS) color names.

Let's try "Bourbon Supreme"—my azalea hybrid—as an example:

	Old HCC color	UCL
Flower	vivid reddish orange 28A	vivid yellowish pink
Blotch	orange-yellow 23A	vivid orange yellow

You know, the *UCL* description is the best!

The Elisabeth C. Miller Library at the Center for Urban Horticulture has a copy of the old Royal Horticultural Society *HCC* Color Chips (1940) in the rare book room, and a copy of the RHS's *HCC* Color Fans (1966) on the regular shelves. It soon will acquire a copy of ARS's pamphlet, *A Contribution Toward Standardization of Color Names in Horticulture*, or the pamphlet can be purchased directly from the ARS national executive secretary, Mrs. Paula Cash, 14885 SW Sunrise Lane, Tigard, OR 97224. Price, including postage, is \$8.00.

Bob Badger is a lifetime Washington Certified Nurseryman and the editor of *Seattle Rhododendronland*, the newsletter of the Seattle Rhododendron Society. He also writes for the *Rhododendron Species Foundation Newsletter*, and many articles for national and local rhododendron publications.

Northwest Hort Review

by Van M. Bobbitt

A digest of issues and information, garnered from scientific and trade publications, is a new column of the Washington Park Arboretum Bulletin. Rhododendrons are featured in the first report.

Chemicals in Rhododendron Leaves Can Attract or Repel Root Weevils

Specific chemical compounds in the leaves of rhododendrons may stimulate root weevils to feed on them. On the other hand, essential oils found in the leaves of other species may inhibit feeding, according to Dr. Robert Doss, a plant physiologist at the United States Department of Agriculture's Horticultural Crops Research Laboratory, Corvallis, Oregon.

Many of the lepidote rhododendrons, those that have foliar scales, seem to be resistant to adult root weevil feeding. Dr. Doss found that the scales on the leaves of lepidote rhododendrons can be rich sources of volatile terpenes (any of a group of unsaturated hydrocarbons found in the essential oils of certain plants). Those species whose leaves contain the largest concentrations of these compounds are also the most resistant to root weevils.

In 1980, Doss reported that a number of *Rhododendron* species had been tested for resistance to root weevil feeding. All

but one of the resistant species in this test were of the lepidote type. The one exception is *R. williamsianum*, a species with curled leaf edges that apparently present a physical deterrent to root weevil feeding.

Lists of rhododendrons that show resistance to adult root weevil feeding can be obtained from Washington State University Cooperative Extension. (Sources: *Journal of the American Rhododendron Society*, volume 36, no. 3, summer 1982. *Journal of Environmental Horticulture*, volume 1, no. 3, September 1983. *Journal of the American Rhododendron Society*, volume 41, no. 2, spring 1987).

Phytophthora Disease and Rhododendrons

Phytophthora is the "primary cause of many ornamental problems" in Pacific Northwest landscapes, according to Dr. Olaf K. Ribeiro, consulting plant pathologist from Bainbridge Island, Washington. He has isolated four species of the fungus *Phytophthora* that infect plants belonging to the Ericaceae (heath family).

This root pathogen is not easy to diagnose and may exhibit a number of symptoms. The leaves of infected rhododendrons may turn an off-green color and wilt. Then limp, rolled up leaves may hang on the plant for a long time before dropping. Other symptoms may

include dark brown cankers on young branches, discoloration at the base of infected stems, and branch dieback. The fibrous roots usually are badly decayed.

To reduce the incidence of *Phytophthora* disease in the landscape, Dr. Ribeiro recommends:

1. Avoid standing water in the landscape. Drain tiles or raised beds may be required.
2. Mulch sandy or heavy clay soils to increase microbial activity against *Phytophthora*.
3. Plant only disease-free nursery stock, since infected nursery stock is probably the primary cause of *Phytophthora* problems in the landscape.
4. Remove diseased plants from the landscape. Take them to a dump or burn them. Never drag infected plants through the landscape.
5. Avoid heavy nitrogen applications to *Phytophthora*-infected plants. Plants forced into rapid growth seem to be more susceptible to *Phytophthora* damage.
6. Avoid polyethylene tarps for weed control. They keep the soil moist for long periods of time, thus increasing the chances of *Phytophthora* infection.
7. Use coarse mulches, such

as bark chips, which help reduce the disease. Avoid pine needle mulches which increase the incidence of *Phytophthora*.

8. Plant *Phytophthora*-resistant species and cultivars in areas where the disease is prevalent. Lists of resistant rhododendrons and azaleas are available at the Elisabeth C. Miller Library, Center for Urban Horticulture. Ask to see the vertical files.

The Oregon State University North Willamette Experiment Station has screened azalea and rhododendron crosses for resistance to *Phytophthora cinnamomi*. Researchers there reported that many of the resistant crosses had *Rhododendron decorum* or *R. yakushimanum* as a parent. Those of *R. catawbiense* parentage had a poor survival rate. Exbury hybrid azaleas appeared quite resistant. (Source: *Pest Control Progress*, vol. 3, no. 4, December 1986. *Ornamentals Northwest Newsletter*, vol. 8, no. 3, July-September 1984.)

Nematodes Help Control Root Weevils

The small, worm-like organisms known as *nematodes* often are thought of as enemies of plants. But not all nematodes are plant parasitic. Some are insect parasites, and two such species, *Neoplectana carposae* and *Heterorhabditis heliothidis*, appear to be effective in controlling black vine weevil, a major insect pest of rhododendrons in the Pacific Northwest.

Insect-parasitic nematodes were applied to black vine weevil-infested cranberry bogs in Washington and Oregon in

the spring of 1986. Although there was no significant decrease in Washington, weevil larvae populations were reduced 65-95% in the Oregon test sites.

These enemies carry a symbiotic bacterium which they release after entering the body of the weevil. Once inside the insect, the bacteria multiply rapidly and cause the weevil to die within 12 to 36 hours. During this time, the nematodes are feeding on bacterial cells and the decomposing insect tissues.

Tests indicate that these insect-killing nematodes are harmless to plants and warm-blooded animals.

In the *Ornamentals Northwest Newsletter*, Oregon State University entomologist Joe Capizzi makes the following points concerning the use of insect-parasitic nematodes.

1. None of the species overwinter in our climate;
2. Nematodes cannot be used preventively since they require a host;
3. Nematodes will not work well in containers when there is a rapid flow-through of water;
4. While soil moisture is a necessity, nematodes are not aquatic;
5. Nematodes, in the infective stage, need to be placed close to the host insect; and
6. Although the nematodes can be sprayed on, it is generally not an effective distribution method.

(Sources: *Journal of the American Rhododendron Society*, vol. 39, no. 3, summer 1985. *Ornamentals Northwest Newsletter*, vol. 11, no. 2, 1987, and vol. 12, no. 2, 1988)

Azaleas, Rhododendrons, and Air Pollution

Ozone is probably the air pollutant of major concern to most azalea and rhododendron growers, according to Laurence D. Moore of Virginia Polytechnic Institute and State University. Ozone can cause a reddish-brown stippling on the upper surfaces of rhododendron and azalea leaves. This symptom only appears on mature, fully-expanded foliage, not on expanding or old leaves.

Dr. Moore and his colleagues tested 21 azalea and rhododendron cultivars for susceptibility to ozone injury. Most appeared to be highly resistant. The exceptions were the rhododendron cultivar 'Nova Zembla' and the azalea cultivars 'Delaware Valley White', 'Roadrunner', and 'White Water', which exhibited injury after being fumigated with relatively high levels of ozone (0.20 ppm for 6 hours on 3 consecutive days).

While this study would indicate that most rhododendron and azalea cultivars are quite tolerant to ozone, there is still concern that the long-term exposure to high levels of air pollution might increase the plant's susceptibility to fungal diseases, such as *Phytophthora* spp. (Source: *Journal of the American Rhododendron Society*, vol. 41, no. 2, 1987; *Journal of Environmental Horticulture*, vol. 2, no. 1, 1984).

Van M. Bobbitt is the coordinator of Continuing Education, Center for Urban Horticulture, at the University of Washington. He is a new member of the *Washington Park Arboretum Bulletin* board.

In the Arboretum

by Christina Pfeiffer

Many people think of winter as an off-season period for landscape and garden work. However, the Arboretum staff always keeps a very active maintenance schedule through those months. Although the wet weather and soils limit our access to many parts of the Arboretum and prevent certain types of work, we are able to prune, cut brush, control weeds, and do some transplanting.

Winter is a good time to get a head start on many weed problems. Herb Robert (*Geranium robertianum*) is one of our most prolific and belligerent annual weeds, invading most of the planting beds. It continues to germinate throughout the winter and grows with amazing speed in the early spring. We weeded several beds this winter, and followed with a pre-emergent herbicide and a layer of mulch. The herbicide was chosen carefully to target germinating weed seeds, and not to harm the plant collection. The mulch will help suppress weed growth and conserve soil moisture this spring. With this technique, our goal is to reduce the intensity of spring weed growth and to reduce the future need for more herbicides.

The Snow

The winter snows were major news for the Arboretum collections and resulted in major changes in our work schedule. We survived the early January snow without too much major damage. Four to five inches of a heavy, wet snow fell on January 6. Most of the damage was limited to limb breakage, especially on broad-leaved evergreens. Several plants fell under the weight of the snow, most of which had evidence of previous structural weaknesses or inadequate root systems. A large willow in the Lagoon area fell over and had to be removed. This winter storm also took out a large number of vine maples, as well as many limbs from older Douglas-fir and western red cedar. One of the two *Ceanothus incanus* at the double parking lot along Arboretum Drive split and bent under the weight of the snow. Our staff braced the trunk with a threaded rod and cabled the plant to an upright position. This *Ceanothus* was planted here in 1956, and it is fortunate that we were able to preserve it.

Although the damage from the January 6 snow storm was fairly minimal, the snow and freezing temperatures that began on February 1 resulted in much more extensive and severe damage. Much of it may not be evident until spring growth begins. Approximately 6 inches of snow fell during that spell, but it was much colder and lighter than the earlier storm, so we did not see limb breakage as we did earlier.

Our staff hurried to protect many of our immature, frost-sensitive plants before the temperatures plunged, but the extended cold damaged some of them anyway. There was over a week of low temperatures below freezing. February 4 had the coldest day at 7 degrees F. The combination of low temperatures, frozen soils, and bright sunny days contributed to some of the most severe cold injury.

Injury was evident on many broad-leaved evergreen species by February 8, including *Arbutus unedo*, *Berberis*, *Camellia*, *Ceanothus*, *Cytisus*, *Dasyphyllum*, *Hypericum*, *Pyracantha*, *Raphiolepis*, *Rhododendron*, *Sarcococca*, and *Viburnum tinus*, to name a few. Flower buds on camellias and rhododendrons have been frozen, and there will probably be much less bloom on these and other spring-flowering plants.

Visitor activities also had a serious impact on the collections during the snow. Within a couple of days after the snowfall, nearly all of the Arboretum grounds had been heavily tracked by cross-country skis, trail bicycles, sleds, and foot traffic. Skiers and others seeking unspoiled snow tracked through plant beds, including newly-planted beds in the Winter Garden. They also broke down parts of the fence protecting the newly-planted grass on Azalea Way. All of this activity in the planting beds and on Azalea Way contributed to the large toll of damage resulting from the storm.

Many of the less hardy plant species will be damaged or killed by the severe cold of the February storm. As we normally watch for the progression of bloom and growth in the spring, this year we also will be seeing the effects of an unusual winter storm.

Christina Pfeiffer is the horticulturist for the Washington Park Arboretum.



Rhododendron Companions

by Nan Ballard

To an English gardener, a *combination* is something unmentionable with tatting or lacy edging. But to an American gardener, a *combination* is an especially pleasing companionship between two or more kinds of plants. Asked to name some of their favorite combinations using at least one rhododendron, six well-known Northwest gardeners gave their favorites.

Mayde Anderson: *Rhododendron quinquefolium* with its new chartreuse leaves edged in red—its delightful fall coloring—and underneath, various woodland plants including *Hepatica* and *Cornus canadensis*.

Marge Baird: *Rhododendron 'Isobel Pierce'*, a hybrid of great interest to Northwest gardeners

who knew its namesake, Mrs. Lawrence Pierce, with some *Polystichum setiferum* varieties and hostas (large leaves of dark-green touched with cream).

Ellie Hensel: *Rhododendron sutchuenense* enhanced with a series of trilliums, *Cornus canadensis*, hellebores, and epimediums, blending bloom and/or fall coloring.

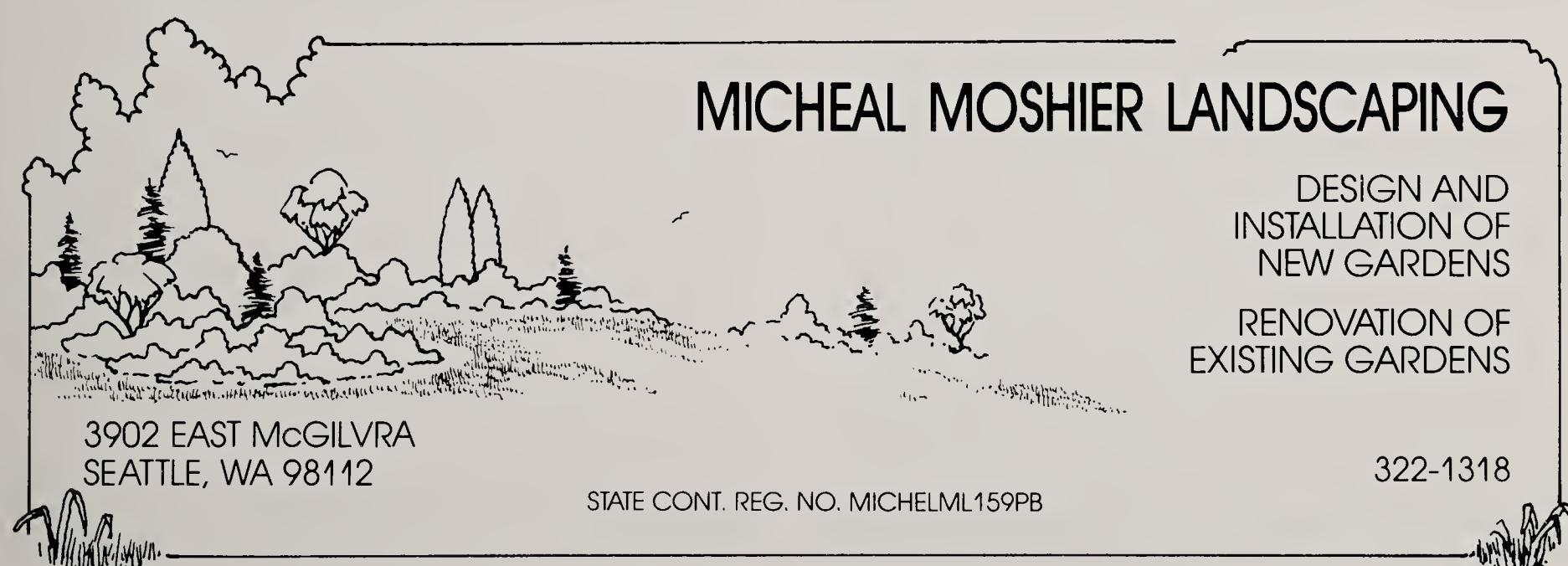
Pearl Nelson: *Rhododendron calophytum* with its big leaves contrasting with several varieties of *R. yakushimanum*, making year-round and pleasing companions.

Esther Berry: Large Whitcomb cherry underplanted with *Rhododendron ciliatum*, *R. bergenii*, and *R. moupinense* in its various colors of pink, and white tinged with red picotee

(edging). This is her favorite combination because it performs so early in the year and heralds the coming of spring.

Pat Bender: Pat named two favorites. In a planter, there is a *Rhododendron dauricum* above a very low, variegated evergreen azalea from Japan, surrounded by *Oxalis lobata*. The other is the hybrid *R. 'Ptarmigan'* with a middle level of *Pulmonaria longifolia 'Roy Davidson'*, and low anemones in white forms.

Nan Ballard is an active member of The Arboretum Foundation, an honorary member of the Foundation board, and a member of the *Washington Park Arboretum Bulletin* editorial board.



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Northwest Garden Explorer

by Scot Medbury

If there is a signature plant for the Northwest, it is the rhododendron. Washington's state flower, *Rhododendron macrophyllum*, is a popular example that upstages all other natives with its showy pink trusses. But rhododendrons are ubiquitous in the Northwest, and Washington's many other exotic species and hybrids give structure and color to cultivated gardens.

The region west of the Cascades abounds with fine rhododendron gardens—public and private, large and small—in climates ranging from harsh to relatively mild. Mildest of all are gardens on the Washington coast where knowing gardeners grow the borderline plants—tender rhododendrons included—that cannot be grown inland.

One such “banana belt” garden is that of Don and Marva Hall. The Hall Garden is a four-acre rhododendron haven on the northern end of the Long Beach peninsula, near the historic town of Oysterville, Washington. It is ideally situated on the Willapa Bay side of the peninsula, and benefits from the warmth of the Japan current without suffering from the high winds or salt spray that shape gardens located directly on the ocean. During a very unusual winter that brings Seattle's temperature to within 5° F (-15° C), Long Beach will drop to only 15° F (-10° C)—a big difference when dealing with nearly subtropical plants. The Long Beach peninsula is also appreciably wetter than areas inland. In contrast to the Washington Park Arboretum's average of 35 inches (889 mm) of rain per year, the Hall garden receives a soaking 85 inches (2,159 mm), accompanied by a regular regime of morning and evening fog—the perfect climate for rhododendrons.

The peninsula has long been noted for its rhododendrons, largely due to the efforts of Dr. J. Harold Clarke, who started a nursery there in the 1940s. Both Don and Marva Hall worked for the Clarke nursery, and there they began planning for a garden of their own. In 1979, they bought 10 acres of boggy swamp land. Immediately they set about digging a pond, being careful to save the topsoil and piling the subsoil to make a raised site for a house. After clearing a tangle of alder, blackberry, and crab apple, the Halls mixed the topsoil with cranberry

leaf compost and spread it back over the land. The garden then was developed around the pond, and a nursery business was situated near the road.

The first plantings were mainly rhododendrons, and today the rhododendron theme is very much in evidence. Tender species rhododendrons are especially noticeable. Visitors are treated to the astonishing *Rhododendron arizelum* and other big-leaved species. They also can see well-grown specimens of *R. crassum* (bearing fragrant white flowers in June), the June-flowering *R. griersonianum*, and the sometimes vine-like *R. spinuliferum*.

Hybrid rhododendrons also are plentiful, from the coral ‘Stephen Clarke’ to a delightful rose-colored hybrid of *Rhododendron ciliicalyx*, called ‘Else Frye’.

The Halls have paid special attention to finding companion plants for their rhododendron collection. Featured along a walk bordered with gray-leaved perennials is a good-sized *Acer griseum* (the paperbark maple), always an arresting sight. Farther around the pond is a thirty-five year old sweetgum relative, *Liquidambar orientalis*, which came originally to Dr. Clarke from the Washington Park Arboretum in the late 1950s. As with the rhododendrons, the eye-catching companion plants include tender ones, among them the *Tasmannia lanceolata* (mountain pepper), a handsome evergreen shrub from Australia; and the coveted Chilean lantern bush, *Crinodendron hookerianum*. Perhaps the best testimonial to the mildness of the climate, however, is an enormous Chilean rhubarb, *Gunnera tinctoria*, which had a ten-foot spread after only seven years.

The Halls are well aware of their garden's potential for growing a wide range of interesting plants. In the future, they plan to expand the nursery and add a small arboretum on the remaining five acres of uncleared land. Yet today's visitor will find over 600 species and hybrid rhododendrons already growing, as well as an impressive array of tender plants seldom seen in our region. Just ten years after beginning, the Halls are well on their way to creating the Northwest's own equivalent of Britain's mild Cornish gardens.

Information about the Hall Garden is listed under “Washington,” below.

Scot Medbury is a graduate student at the Center for Urban Horticulture and coordinator of public classes for CUH.

Northwest Rhododendron Gardens to Visit

The vertical files at the Elisabeth C. Miller Library, Center for Urban Horticulture, contain brochures on many of these and other Northwest gardens.



Rhododendron
spinuliferum
by Don Hall.

British Columbia

Vancouver

University of British Columbia Botanical Garden, 6650 Stadium Road. The 30-acre Asian garden contains outstanding collections of rhododendrons and other temperate plants. Open 7 days a week; hours vary with the season. During winter months, adult admission is free; \$2 at other times. Call (604) 228-4208 or (604) 228-3928 for details.

VanDusen Botanical Garden, 37th Avenue and Oak Street. Rhododendrons are featured in the Sino-Himalayan garden and in other sections of this 55-acre display garden. Open 7 days a week. Summer (March 1-October 14) hours are from 10 a.m. to 8 p.m.; winter hours are from 10 a.m. to 4 p.m. Admission is \$3.50 in the summer; half-price in winter. Call (604) 266-7194 for details.

Oregon

Eugene

Hendricks Park is a municipal park featuring over 5,000 rhododendrons under a canopy of Garry oak. Open daily; free. Call (503) 636-4112 for directions.

Portland

Berry Botanic Garden, 11505 SW Summerville. There is a fine collection of rhododendrons of wild provenance, as well as natives, primulas, and rock plants. By appointment only. Call (503) 636-4112.

Crystal Springs Rhododendron Garden, SE 28th and Woodstock Blvd. This well-developed collection surrounds a small lake. Free admission every day during daylight hours, except on Mother's Day weekend, when a small fee is charged. Call (503) 796-5193 for details.

Elk Rock, the Garden of the Bishop's Close, 11800 SW Military Lane. Eleven acres of mature rhododendrons and magnolias are high above the Willamette River. Open daily during daylight hours. Free admission. Call (503) 636-5613.

St. Paul

Cecil and Molly Smith Rhododendron Garden, 5065 Ray Bell Road. This extraordinary collection of rhododendrons is in an intimate setting. By appointment only; special Saturday openings during bloom season. Admission \$3. Call the Portland chapter of the American Rhododendron Society at (503) 771-8386 for details.

Washington

Bainbridge Island

The Bloedel Reserve, 7571 NE Dolphin Drive. This exquisite estate garden now is devoted to the study of plant/people interactions. The Glen area features large rhododendrons in a woodland setting. Open Wednesday through Sunday. Admission \$4. Call (206) 842-7631 for information and directions.

Federal Way

Rhododendron Species Foundation. The Foundation's twenty-four acres are devoted to the conservation and display of species rhododendrons. This garden forms one of the world's best collections. Open March to May from Saturday through Wednesday, 11 a.m. to 4 p.m.; and June to October from Sunday through Wednesday, 11 a.m. to 4 p.m. Adult admission \$2. Call (206) 838-4646 from Seattle; from Tacoma call (206) 927-6960.

The Long Beach Peninsula

The Hall Garden is located on Sand Ridge Road between Nahcotta and Oysterville at the north end of the Long Beach peninsula, about a four-hour drive from Seattle. The garden and nursery are open every day (except Tuesdays) between 9 a.m. and 4 p.m. Call the Halls for information and directions at (206) 665-4753.

Seattle

Washington Park Arboretum. Beginning with substantial gifts of plants from Dr. Cecil Tenny and C.O. Dexter in the 1930s, the rhododendron collection at the Arboretum has grown to encompass over 600 taxa. Rhododendron Glen, Loderi Valley, Azalea Way, and the Himalayan Hillside are areas with major plantings. The Arboretum is open every day of the year from sunrise to sunset; call (206) 543-8800 for directions.

Tacoma

Lakewold Gardens is a national treasure, distinguished by both its design and collections. Guided tours available by appointment only. Admission \$5. Call the Friends of Lakewold for reservations at (206) 584-3360.

Whidbey Island

Meerkerk Rhododendron Garden, located on Resort Road near Greenbank, belongs to the Seattle Rhododendron Society. It has a large collection of species and hybrids, and is an international rhododendron test garden. Open 9 a.m. to 5 p.m., Wednesday through Sunday, March through Labor Day; other times by appointment. Donation requested. Call (206) 321-6682.

Book Reviews

Supplement to W. J. Bean's Trees and Shrubs Hardy in the British Isles, 8th edition. D. L. Clarke, author. John Murray, London: 1988. 616 pages.

This *Supplement* brings us up to date on taxonomy and nomenclature, and on new introductions. It also provides further records of large specimens in the British Isles and corrections to the previous four volumes (see earlier *Bulletins* for reviews).

There are two entirely new chapters: one on "Diseases of Trees and Shrubs" by the plant pathologist at the Royal Horticultural Society's Garden at Wisley, Surrey; the other is on "Pests of Trees and Shrubs" by the Society's entomologist. An extensive and very useful bibliography is arranged under nine headings. The "Index of Colloquial Names" also has been added, as well as an index to the *Supplement* itself. Tree measurements still are given in feet and inches, not in their metric equivalents.

In the *Supplement* index, *Rhododendron* species and hybrids are listed separately, but this is not the case with other genera. The cultivars of *Acer palmatum* need an entire page. Clarke drew considerable data from *Japanese Maples*, by J. D. Vertrees of Roseburg, Oregon.

Changes in taxonomy and nomenclature are discussed in the introduction, which should be required reading for all dipping into this work. As examples, the genera *Cladothamnus*, *Botryostegia*, and *Tripetaleia* now are included in *Elliottia*; *Astrocedrus* and *Calocedrus* are removed from *Libocedrus*.

Rhododendrons are arranged in two subgenera and many subsections following the 1980 and 1982 revisions of the genus by J. Cullen and David Chamberlain at the Royal Botanic Garden, Edinburgh. Seventy-five pages now are devoted to this diverse genus—mostly to species of *Rhododendron*, although the hybrids of *R. yakushimanum* require almost a full page.

Magnolia hybrids raised by the late Todd Gresham at Santa Cruz, California, are described briefly. There also is more information on *Magnolia x soulangeana* and its numerous offspring. The genus *Hypericum* receives much more attention than before, due to the extensive work over many years by Dr. N. K. Robson at the British Museum of Natural History.

The *Supplement* is most useful and valuable. It can safely be said that anyone who uses this edition will certainly want to acquire it. It is available at the Elisabeth C. Miller library.—Reviewed by Brian O. Mulligan

Brian O. Mulligan is director emeritus of the Washington Park Arboretum.

For Further Information

by Valerie Easton



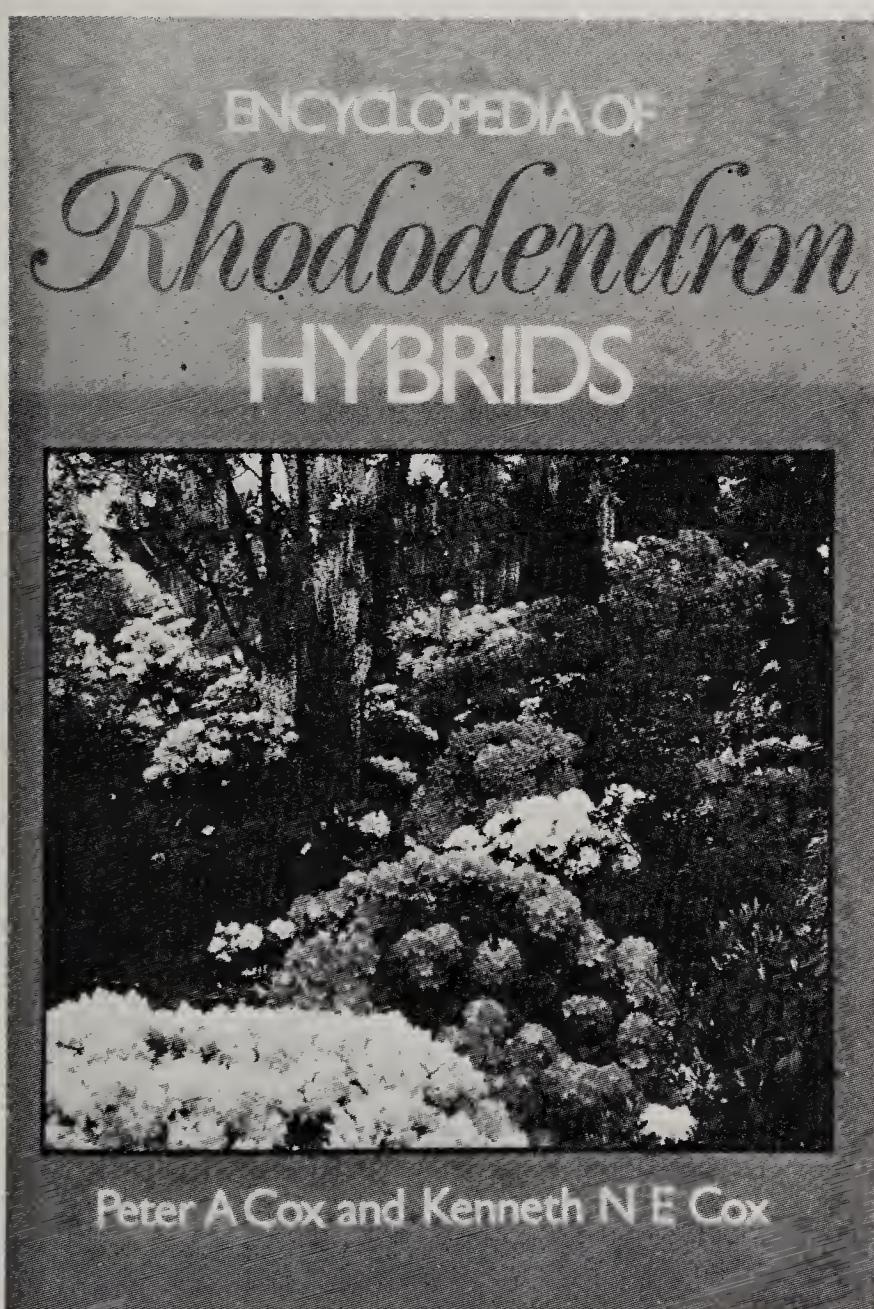
Northwesterners live in a region that is rich in sources of information on rhododendrons. The Elisabeth C. Miller Library at the Center for Urban Horticulture has over 100 books specifically on this favorite Northwest plant. Listed below are the newest and best titles, along with names of societies and journals devoted to the study of rhododendrons.

Books

Antonelli, A.L., R.S. Byther, R.R. Maleike, S.J. Collman, and A.D. Davison. *How to Identify Rhododendron and Azalea Problems*. Pullman: Washington State University Cooperative Extension. 1984. This oversize pamphlet is a first place to look up what could be causing those little brown spots on the leaves of your favorite rhododendron. Excellent photographs show the cultural, disease, and pest problems of rhododendrons in the Northwest, with suggestions for control.

Cox, Peter A. *The Smaller Rhododendrons*. Portland: Timber Press. 1985. A complete revision of his earlier title, *Dwarf Rhododendrons*, this new volume includes only plants whose average maximum height is under 5-feet. Cox has collected, studied, and grown these smaller rhododendrons for many years, and his experience and knowledge are clear in this comprehensive guide. Illustrated with black-and-white photos and lovely watercolors.

Cox, Peter A. *The Larger Species of Rhododendron*. London: Batsford. 1979. A companion volume to *The Smaller Rhododendrons*, with the same virtues, and an emphasis on the need to preserve and conserve rhododendron species.



Cox, Peter A., and Kenneth N.E. Cox. *Encyclopedia of Rhododendron Hybrids*. Portland: Timber Press, 1988. The newest encyclopedia of hybrids, published in September 1988, is noteworthy because it concentrates on commercially available hybrids, including the latest and most promising introductions. This is a worthwhile new addition to the rhododendron literature because it states regional availability of the plants, has over 200 color photos, and provides extensive critical comment on each hybrid tested.

Coyier, Duane L., and Martha K. Roane, editors. *Compendium of Rhododendron and Azalea Diseases*. St. Paul: American Phytopathological Society. 1986. Authoritative and thorough, with glossary and index, this title is particularly useful for its color plates which show clear close-ups of diseases and insect damage.

Davidian, H.H. *The Rhododendron Species, Volume I, Lepidotes*. Portland: Timber Press, in cooperation with the Rhododendron Species Foundation. 1982. Mr. Davidian has been associated for over 40 years with the Royal Botanic Garden in Edinburgh, and is a leading authority on rhododendrons. Here he gives a complete and detailed taxonomic treatment of the Lepidote *Rhododendrons* (those with scales beneath the leaves). Look for Davidian's companion volume, *Rhododendron Species, Volume II, Elepidotes* (Timber Press), in Spring 1989.

Fang Wenpei, editor. *Sichuan Rhododendrons of China*. Beijing, China: Science Press, 1986. This book contains an excellent color picture of each species taken in its native surroundings, and showing mature vegetation and companion plants. Each listing has additional close-ups of flowers, branches, and foliage—even photos taken under a microscope which show fine structures. Ignore the poor translation, and enjoy the breath-taking photographs of rhododendrons in forests, along streams, and “on the verge of a fathomless abyss.”

Greer, Harold E. *Greer's Guidebook to Available Rhododendrons: Species and Hybrids*. Eugene, Oregon: Offshoot Publications. 1988. Harold Greer is an expert on rhododendrons and the owner of Greer Gardens, a nursery in Eugene, Oregon. His guide will help laypeople understand the classification of rhododendrons in a time when classification is rapidly being changed. Greer includes clear color photos, descriptions, histories, and ratings, based mainly on performance in the Pacific Northwest.

Leach, David G. *Rhododendrons of the World and How to Grow Them*. New York: Charles Scribner's Sons. 1961. This is a comprehensive compendium of information on rhododendrons written for gardeners, students, and people who work in nurseries. It includes hybrids and species, with chapters on cultivation, propagation, and hardiness.

Luteyn, James L., and Mary E. O'Brien, editors. *Contributions Toward a Classification*

of Rhododendron. Proceedings: International Rhododendron Conference, New York Botanical Garden, May 15-17, 1978. New York Botanical Garden. 1980. During an international conference attended by nearly all major world scholars of the genus *Rhododendron*, progress was made toward developing a system of universal classification. The conference made clear the practicality and scientific validity of Sleumer's systematics, and the record provides fascinating clues in the detective work of identifying the vast numbers of rhododendrons.

Salley, Homer E., and Harold E. Greer. *Rhododendron Hybrids: A Guide to Their Origins.* Portland: Timber Press. 1986. Arranged alphabetically by cultivar, this book describes and gives the pedigrees of over 4,000 names, hybrids, and selected forms of species. The excellent color photos of leaf and bloom aid in identification.

Street, John. *Rhododendrons.* Chester, Connecticut: Glove Pequot Press. 1988. John Street comes from a British family that has been growing rhododendrons since 1869. This tradition of love and knowledge is evident in this thorough, beautifully photographed guide to rhododendron types and cultivation.

Societies, Journals, and Newsletters

American Rhododendron Society, 14885 S.W. Sunrise Lane, Tigard, Oregon 97224. Publication: *American Rhododendron Society Journal* (a quarterly).

Northwest Rhododendron Hybridizers Group. President: Keith Rodaway, (206) 839-1444.

Rhododendron Species Foundation. Director: Richard V. Piacentini, P.O. Box 3798, Federal Way, Washington. (206) 838-4646 (Seattle); (206) 927-6960.

Seattle Rhododendron Society. President: Jeanine Smith, (206) 483-8272. Three shows per year: April (Center for Urban Horticulture), May (Graham Visitors Center), and June (Meerkerk on Whidbey Island).

Washington Park Arboretum (XD-10), University of Washington, Seattle, Washington 98195. (206) 325-4510. Mae Granston Rhododendron Study Group: Pauline Weller, (206) 363-2443.

New on the Shelves

of the Elisabeth C. Miller Library

VALERIE EASTON

Ainsworth, John. *The Art of Indoor Bonsai.* North Pomfret, Vermont: Trafalgar Square Publishing, 1988.

Appleton, Bonnie Lee. *Landscape Rejuvenation: Remodeling the Home Landscape.* Pownal, VT.: Garden Way, 1988.

Burn, A.J., T.H. Coaker, and P.C. Jepson, editors. *Integrated Pest Management.* San Diego: Academic Press, 1987.

Chan, Peter. *Bonsai Masterclass.* New York: Sterling Publishing, 1988.

Chen Shou-liang and Chia Liang-chi. *Chinese Bamboos.* Portland: Dioscorides Press, 1988.

Clayton, W.D., and S.A. Renvoize. *Genera Graminum: Grasses of the World.* London: Royal Botanic Gardens, Kew, 1986.

Fiala, Fr. John L. *Lilacs: The Genus Syringa.* Portland: Timber Press, 1988.

Mathew, Brian. *The Smaller Bulbs.* London: Batsford, 1987.

Richards, Betty W., and Anne Kaneko. *Japanese Plants: Know Them and Use Them.* Tokyo: Shufunotorno Co., Ltd., 1988.

Stein, Sara B. *My Weeds: A Gardener's Botany.* New York: Harper & Row, 1988.

Special thanks to the individuals and organizations who have contributed these books to the Elisabeth C. Miller library.

Valerie Easton is a librarian at the Center for Urban Horticulture and the book review editor of the *Washington Park Arboretum Bulletin*.

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